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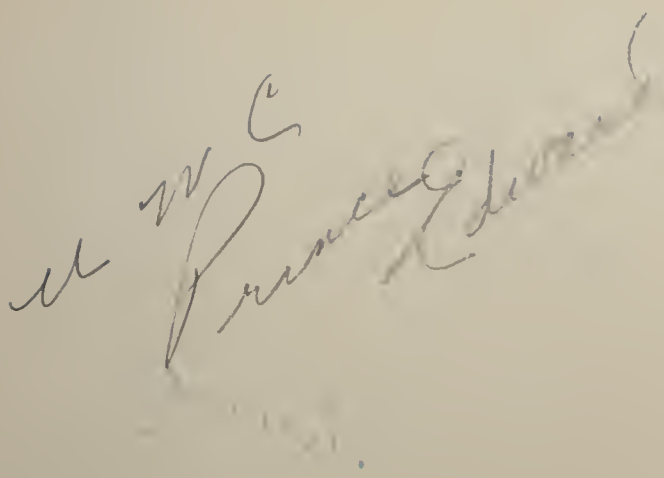

NATURALISM AND AGNOSTICISM

The MMC Co.

NATURALISM

AND

AGNOSTICISM

THE GIFFORD LECTURES DELIVERED BEFORE
THE UNIVERSITY OF ABERDEEN
IN THE YEARS 1896–1898

BY

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VOLUME II

"Wer die Gesetzmässigkeit der Natur für das verantwortlich macht, was wirklich geschicht, behauptet damit, dass sie Gedanken realisiere, und ist Teleolog ohne es zu wissen." — SIGWART.

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LECTURE XX

SPIRITUALISTIC MONISM

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PART III

THEORY OF PSYCHOPHYSICAL PARALLELISM

THEORY OF PSYCHOPHYSICAL PARALLELISM

LECTURE XI

VARIOUS FORMS OF THE THEORY

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of molecular change, but will not allow that molecular changes are ever the effect of volition. To justify this position volition has to be regarded as "feeling" or sensation simply.

SINCE the dawn of modern philosophy in the *Meditations* of Descartes, the question of the relation of body and mind has been continuously under discussion. The complete disparateness between thinking substance and extended substance, upon which Descartes insisted, at once brought this problem to the fore. Of philosophical attempts to transcend this dualism there has been, as we know, no lack. But the progress of science, which works forward to new distinctions rather than backward to supreme identities, has, on the other hand, only tended to widen the separation. The crude psychology, for example, that regarded extension as directly apprehended by the senses of touch and sight, is practically obsolete; so that even that vestige of naïve realism seems now to have disappeared. On the other hand, Descartes' ideal of the external world as a complete mechanism has become for many a scientific certainty. Psychology and physics, in short, have each elaborated working conceptions appropriate to their own special facts, regardless of any questions concerning their eventual coördination. Substance and cause, metaphysical notions which Descartes would have used in the same sense, whether referring to matter or to mind, are now discarded by physicist and psychologist alike. Mass, indeed, still retains the one substantial attribute of permanence, but matter as the support of innumerable qualities and powers is no more: souls, on the other hand, as simple and indiscerptible entities are replaced

by consciousness, the so-called 'contents' of which are in continuous flux. As to cause, it is absurd to credit inert mass with efficiency, and so we have left on the physical side only quantitative relations expressed in equations of motion, and the like. In psychology the meaning to be given to causal efficiency, if any, is still in dispute. But the influence of the more perfect science here asserts itself. The notion of inherent activity, being abandoned by the physicist, is regarded with suspicion by many psychologists; for they imagine that what is held to transcend the limits of positive science in one department of knowledge must needs do so in another. In fact, the determination of this most central of all real categories, the category of efficiency, they leave depending on the solution of this very problem of psychophysics now before us. Psychical facts being meanwhile regarded as only a flux of presentations, this problem takes the form of ascertaining how the coexistences and sequences of that changing content are related to those motions of mass elements, which are held to constitute the physical world.

The answer to which 'modern science' almost inevitably leads is embodied in the doctrine now coming to be known as the law of psychophysical parallelism, or the doctrine of conscious automatism, as the most usual form of it is called. This replaces in the creed of modern Naturalism the coarsely materialistic doctrine of a generation ago, which, as we have found, the agnostics of our day repudiate. Disclaiming any knowledge of substance either mental or material, disclaiming too any knowledge

of efficient causes, they hold this doctrine of parallelism to be simply a scientific inference from facts and not in any sense a speculative hypothesis. I shall try to shew that, on the contrary, it is really at variance with facts and rests upon a speculative basis of the most unstable kind, viz., the Cartesian dualism, the doctrine, *i.e.* of the complete disparateness of matter and mind. The theory of psychophysical parallelism is indeed, as it seems to me, but the scientific counterpart of that occasionalism to which the followers of Descartes were driven, in their endeavour to account for the correspondence between mental states and bodily movements. But, whereas according to the Occasionalists the Deity intervened as each occasion demanded, here the physical series is held to be mechanically predetermined and to be capable of calculation in Laplacean fashion. Thus we seem driven to infer a like rigid determination of the psychical concomitants, to admit, with Huxley, "the banishment from all regions of human thought and activity of what we call spirit and spontaneity." It is assuredly not a prepossessing doctrine; this its upholders often candidly allow. But, inasmuch as some of our ablest scientific men are counted among them, we may be sure that the arguments that have led to such a position are not to be summarily disposed of. Merely to lay bare the defects of the dualism which this parallelism presupposes is not likely to be convincing,[1] unless the theory itself can be shewn to have defects which force us to question its implicit assumptions. Such a procedure

[1] This is the topic of the fourth section of these lectures. See below, Lectures XIV ff.

is the less likely to be convincing, as this same dualism of matter and mind is engrained in common thought and speech; to this extent the doctrine of parallelism has common sense on its side. And the history of modern philosophy shows the two questions, that concerning the perception of an external world, and this concerning the relation of body and mind, to be closely connected. The whole subject is as difficult as it is important, and we are bound to study it with the utmost attention and care. When I say important, I mean important to the student of Natural Theology, for the fine saying of Henry More is assuredly true: *Nullus in microcosmo spiritus, nullus in macrocosmo Deus.*

To begin, we must make sure that we understand the main points of the doctrine itself. These may be resumed under three heads: for we have, first, a series of physical changes or brain-processes; then, a simultaneous series of psychical changes or processes, accompanying them; and finally, the relation between the two, declared to be purely one of concomitance, not one of interaction. As regards the physical series, it is important to remark that the only correspondences of which we have any actual knowledge are such as have been found between the physiological or pathological working of nerve tissues on the one side and conscious states and acts on the other. There is nothing in such facts taken alone — instructive and impressive though they are, as shewing the intimate connexion between body and mind — to prove that that connexion is one of parallelism and not of interaction. The specialists to whom we owe our knowledge of these facts have indeed usually been of

opinion that the connexion *is* one of interaction. The contrary opinion, then, it is to be noted, owes its rise, not to the studies of mental physiologists or pathologists, nor yet to the studies of comparative anatomists or comparative psychologists; it rests simply on the assumptions of the upholders of the mechanical theory. According to those assumptions, brain-processes, in common with all vital processes, if they could be completely and perfectly explained, would be described not as physiological, nor even as physical, processes; but simply as the mechanically connected motions of inert mass-elements. So regarded, the organic changes in brain and nerve become amenable, in principle if not in fact, to that absolute determination and fixity that characterise the ideal operations of exact mechanics. They become distinguishable but inseparable parts of an unbroken and unbreakable mechanism, every element of which is rigorously linked with every other; the whole working in perfect unison, without the possibility of deviation or individual initiative; a world that knows nothing of spontaneity, of quality, of worth, or of purpose; a world in which there is only uniformity of space and time, indestructibility of mass, and persistence of energy. There must be nothing in that world which a mathematician with sufficient data and adequate powers of calculation could not unlock; its state at any one instant, expressible in a single vast equation, must be equally the key to all its past and to all its future. Such a conception seems obviously to exclude all interference from 'without as well as from within.' In fact, there is no without or within in the case. No 'within,' for inertia excludes internal change; and no 'without,'

for, though force implies some mass external to the particular mass affected, yet, *ex hypothesi*, all the masses there are are included in the system and the system recognises nothing beyond. I do not propose to recall at this stage the results to which we were led in our earlier examination of the mechanical theory. The time to apply these will be when we enter upon the task of criticising the doctrine of parallelism. But we must first complete the statement of it.

We come, then, now to the psychical series. What are we to understand by this? Unhappily, there is no answer forthcoming comparable as respects definiteness and precision with that given concerning the physical series. For this difference there are many reasons. For one thing, quality has only been eliminated from the physical world by relegating it to the psychical; and in consequence, relations of quantity and number, which there admit of the utmost exactness, are here at best but vague and approximate. Again, when we ask after the laws determining the coexistences and successions of elements of the psychical series, we get in some cases — that of sensations, for example — no answer at all. In some cases, as in association and habit, the past, in others, as in purposive action, the future, is said to determine the present. In volition motives spring from feeling but are controlled by deliberation; so in thought, judgment is superior to association, but not to reason. How is this ultimate diversity of qualities, how are these processes so different in rank and character, to be described in terms that may run parallel with the monotonous interplay of molecules in the

cavity of a skull? But there is a further difficulty still. If this psychical series is to be my experience as it is for me, or yours as it is for you, then all those external perceptions, which are the physicists' prime data, and all the conceptions whereby they are summarized, belong to it and are the outcome of its processes. So regarded they form a unity; within this unity we find indeed a duality, that of the correlatives, subject and object, but we find no dualism of external and internal, physical and psychical, matter and mind. To come within the range of such a dualism and to justify any notion of parallelism, we must leave the properly psychological standpoint of my experience as it is for me, or your experience as it is for you. We must take up instead the standpoint of my experience as it is for you, your experience as it is for me. Then, indeed, as I am for you primarily a portion of the physical world, and you in like manner for me, it becomes natural to locate each one's experience inside his skin, his environment being outside it; to say that of the chairs and tables, moon and stars, and the rest of this external world, he has ideas; to ask the puzzling question how these ideas are produced or whereabouts inside that skin the thinking thing is; and finally, to take his body to pieces in the hope of answering the question. But this is still not the worst; for, once accustomed to speak of one's fellow-man's experience as made up of ideas in that man's head, one is led by parity of reasoning to think the same of one's own experience. And there is at least one further source of confusion still, when from concrete experiences, in which the individual

percipient is plainly recognised, has his name, place, and date, and his manifold idiosyncrasies, we pass to what is known as the scientific or objective standpoint, where the subject experiencing is entirely ignored. Psychology is only beginning to clear itself of these confusions. I refer to them now that we may be on our guard; for when a physicist talks about matter, he can generally provisionally define what he means. But many able men write about mind without being in the least clear what they mean. As I have already remarked, there are three related but distinct questions that are constantly playing hide and seek, especially during the occasional excursions into philosophical regions made by scientific men. These questions are the psychophysical one now before us, the psychological one concerning the intuition of an external world, and the epistemological one concerning the phenomenal and the real. We have agreed to postpone the latter questions as far as may be. It will suffice for the present if we can see that, when a psychical series is spoken of as parallel with a physical series, such psychical series is not regarded from the strictly psychological standpoint. Psychical then means not my experience as it is for me, but my experience as it is for the physiologist, who is studying my brain and my organs of sense and movement. As examples of the confusing influence of this point of view upon psychology proper, we have the prevalent metaphor of impressions imprinted on the mind as in Locke and Hume, the frequent identification of action with bodily movement, or the identification by certain recent psychologists of emotion with its bodily expres-

sion. One further result of this confusion is the tendency to treat consciousness atomistically, if I may so say; in other words, to regard it as owing its unity to combinations and associations of sensations, feelings, or ideas, vaguely conceived as independent elements. A glaring instance of this we have in Clifford's wild speculation concerning mind-stuff, to which I must refer presently. The essential characteristic of the psychophysical standpoint is that it implies two subjects, or — as perhaps it will be simpler to say — two percipients, whereas the psychological implies only one.

Coming now to the question: What is meant by parallelism? the answer is more uncertain still. We could readily understand the relevance of such a term if the two percipients, being psychologically similarly constituted, were both occupied with the same perceptual environment; as when, for instance, two fellow-travellers are together engrossed by the sights and sounds of a summer's day. We should also admit parallelism, if, being psychophysicists, they were both simultaneously occupied in scanning each other's brains — science having previously devised means to obviate the thickness of their skulls and the turbidity of the contents. In these cases, along with the dual series that parallelism implies, we should have also the point for point correspondence that is quite as essential. But if, while one watches 'the lark soaring and singing in the blinding sky,' the other peers into his head as he watches, where is the parallelism? "Parallels are lines that never meet," it will be said, "and so it is the complete disparateness of matter and mind that is meant. Psychological analysis, pursued

never so far, will bring us no nearer to moleeular motions, and however mueh we lay bare the brain meehanism, thought will remain as distinet as before." No doubt; but surely parallelism is an odd metaphor to employ to express only absolute disparateness. Mental proeesses and material proeesses may resemble parallels in having no eommon element, but what have they answering to the point to point correspondenee that parallels imply?

"*Ordo et connexio idearum idem est ac ordo et connexio rerum*"[1] is a famous proposition of Spinoza constantly quoted in this diseussion; usually, I am bound to say, in entire ignorance of Spinoza's eontext and meaning, whieh to be sure is not very elear. But now, taking the words as they stand, what is an idea and what is a thing? Let me here quote a writer who has undertaken to expound sueh a parallelism — the late Professor Clifford: "The parallelism here meant," he says, "is a parallelism of eomplexity, an analogy of structure. A spoken sentenee and the same sentence written are two utterly unlike things, but eaeh of them eonsists of elements; the spoken sentenee of the elementary sounds of the language, the written sentenee of its alphabet. Now the relation between the spoken sentenee and its elements is very nearly the same as the relation between the written sentenee and its elements. There is a eorrespondenee of element to element; although an elementary sound is quite a different thing from a letter of the alphabet, yet each elementary sound belongs to a eertain letter or letters. And the sounds being built up together to

[1] *Ethica*, ii, 7.

form a spoken sentence, the letters are built up together *in nearly the same way*, to form the written sentence. The two complex products are as wholly unlike as the elements are, but the manner of their complication is the same. Or, as we should say in the mathematics, a sentence spoken is the same function of the elementary sounds as the same sentence written is of the corresponding letters."[1] Well, no one will question the appositeness of the term parallelism here. "Of such a nature," continues Clifford, "is the correspondence or parallelism between body and mind." But if so, then to every molecule in a man's brain there must be an answering elementary idea. Also, since according to the prevalent opinion of chemists, the seventy odd so-called elements are to be regarded as combinations of one prime atom, ideas in like manner must be regarded as combinations of one prime idea. But if the speculations of Lord Kelvin and others are to be accepted, and the prime atom itself is a state of motion in a primitive homogeneous medium, what is the mental equivalent of this primordial medium?

Again, if the elements correspond, atoms to pieces of mind-stuff, each to each, and if, further, the function is the same, there cannot be more in the one order and connexion than there is in the other. But the order and connexion of mass-elements are ultimately resolved into one kind of order and connexion, the kinetic; what now is the corresponding ultimate order among ideas? Is it associative contiguity, logical congruency, appetitive urgency, or what? The elements correspond numerically, and are, of course, simple; time is supposed

[1] *On the Nature of Things in Themselves*, *Mind*, vol. iii, p. 61.

to be common to both series: there should remain then only the question, What is the psychical analogue of space? But whatever it be, since the functions correspond, this psychical space, or quasi-space, should admit of algebraic, though not of geometrical, expression. Psychology then at length, like physics — Dr. Hicks being our prophet — may hope to become a branch of kinematics! In short, as in Clifford's illustrative instance, the sentence as sentence is the same whether spoken or written — in logical language is one in form though diverse in matter; so here, his mind-stuff is simply the atom renamed. Allowing that it is not mind, he makes no attempt to show how from such dust a living mind could ever spring; but is content to assert that "reason, intelligence, and volition are properties of a complex made up of elements themselves not rational, not intelligent, not conscious."[1]

On one point only in this maze of psychological barbarism I will venture a remark. The assertion that new properties arise from any mere complication or conjunction of elements is never justifiable, least of all in such a case as this. Even the three lines that in a certain position we may call a triangle are so only when we introduce a fourth something we call surface, that is distinct from and independent of them as three several lines. Complexity, in truth, is a vague term even when, in the unity so described the parts precede the whole. Nobody bent on psychological precision would speak of ideas as either conscious or intelligent, but still less would he speak of ideas existing

[1] *On the Nature of Things in Themselves*, *Mind*, vol. iii, p. 67.

in isolation apart from, and prior to, a consciousness and intelligence. To such a position, however, Clifford professes to have been driven by the principle of continuity and the doctrine of evolution. Of the absurdities to which this doctrine leads as expounded by Mr. Spencer, whom Clifford seems to have followed, we have had enough already. Had he followed Leibniz instead, and applied the principle of continuity in like fashion, he could have speculated as to simple minds to his heart's content, but would never have imagined that absurdity, "a piece of mind-stuff," to which his fearless and logical interpretation of atomistic psychology had led him; he would never have imagined that the *esse intentionale* of mind, if so scholastic a term be allowed, could be described in terms that have a meaning only when applied to the complexity of material structure.

We cannot, then, it seems to me, admit such a parallelism as that offered by this crude monism of Clifford. And yet it seemed to call for notice since it is a fair type of a good deal of naturalistic speculation now in vogue. The independent advance of physics and of psychology, as I have already remarked, has revealed too clearly the entire disparity of their conceptions to leave any room for the old materialism. But the monism now in favour with many scientific men is that old materialism, to all intents and purposes, though with a new face. The problem as it presents itself to a thinker setting out from the side of matter and law, is to bring the facts of mind somehow within range. The supposed diversity and disparity of the two is the crux: hence the dualism. The assumed

impossibility of any interference with the physical scheme, except by miracle, leads next to the assertion of complete causal independence, and then the well-ascertained facts of psychophysics seem to point to a parallelism. Now, the mere existence of two independent sets of facts, taken by itself, would constitute no problem, for science at any rate. And the concomitant variations of cerebral development and function on the one hand, with mental development and function on the other, in no way excludes, and, as I have said, was never supposed to exclude, the interaction of body and mind. But the conjunction of independence and parallelism at once confronts us as a formidable problem. The ordinary canons of method allow of independence and *casual* coincidence; but independence and *invariable* coincidence seem contrary to all reason. Any hypothesis that will resolve the coincidence into identity is so far sound; but it must not tamper with the facts as Clifford's egregious travesty of mind-stuff assuredly does. Here the ideas (ejects as he calls them) become the real things or things-in-themselves; while material things become what others call ideas or mental pictures, in which mind-stuff is the thing represented. But, as the ejects stand divested of every mental characteristic, it is a puzzle, at least as great as the puzzle solved, to see how these new ideas are ever to begin. Even things-in-themselves, that are 'not rational, not intelligent, not conscious,' can neither have the motive nor the power nor the skill to group themselves and take each other's pictures.

Another rendering of Spinoza's doctrine of parallelism

more in keeping with his philosophy, and altogether less absurd, is that familiarly known as the two aspects theory. Here, as with Spinoza, mind and matter are attributes of one substance. But they are conceived not as attributes of the one substance in itself, as in Spinoza's definitions, not as *real* attributes, but as phenomenal attributes, if I may so say. Modern thought, chary of ontological dogmatism, declines to affirm anything of such a conception as Spinoza's One Substance. But while leaving this in uncertainty, many recent writers of note have been content to account for the disparity between the psychical and physical series by diversity of standpoints. That which in one aspect appears as states of consciousness, in the other appears as matter in motion, just as a deaf man may perceive the strokes of the bell-clapper while a blind man hears the sounds from it. Once accept the deliverance of the psychologist that he does not know what mind as a substance is, and the like deliverance of the physicist as to his own ignorance of the substance of matter, and it becomes an obvious superfluity to have *two* unknown substances. Especially so, when one — for those who cannot do without any — and best of all, an unknowable one, will amply fill any gulf that is phenomenally impassable. So we find the very men who are loudest in their denunciation of metaphysical speculation complacently preaching this two aspects doctrine. For, after all, what objection can an agnostic have to an unknowable substance? But it is possible, I think, without trespassing into metaphysics to shew that the two aspects theory is untenable.

Like much psychophysical speculation, it rests upon a faulty and exploded psychology and fails largely through its free use of metaphor to get really to the bottom of the situation. The notion, countenanced by Locke and also by Kant, that the facts of mind are perceived by an inner sense and the facts of matter by the outer senses, breaks down before a more careful analysis. Even if this distinction were sound, still what I am supposed to experience through internal perception is not another aspect of what I perceived externally; nor again is my experience, taken as a whole, another side of that abstract conceptual scheme by which the naturalist would describe the physical processes of my brain. When the normal man combines in himself the separate perceptions of the blind and deaf, the movement seen by the one, the tones heard by the other, he refers them both to one thing, the bell, as its states or 'aspects.' But now we never do this with our so-called internal and external perceptions. If we did, then so far the two-fold aspect doctrine would be justified and the problem of dualism avoided. Again, when two percipients observe different sides of the same thing, like the hasty knights in the fable, they can — as the knights did — change places and each connect the two aspects in one experience of an object. In short the phrase 'two-sides' is a phrase merely, unless it is possible in such manner to pass continuously from the one to the other, from outer to inner or from inner to outer. The whole psychophysical problem turns on the fact that this cannot be done. To give any meaning to this metaphor of sides or aspects, it should be possible to indicate the unity to which

they belong, and to shew that they have such congruence as befits complementary sides or aspects of the same thing. But the unity cannot be indicated; so an unknown substance is assumed.

Within the range of our experience, or of the scientific conceptions by which we formulate it, I have said no such unity is forthcoming. Let us consider this a little further. My experience is not so much *beyond* or out of the present reach of the physiologist who may con my brain: it is, as a concrete individual experience, absolutely distinct from his; and *per contra* his perception of my brain, for the very reason that it is his perception, can never be mine. This is allowed; but it is frequently urged that even if I cannot directly perceive my own brain I could conceivably observe it indirectly, as I do my face in a glass for instance. Certainly the mere fact that the reflection and the face reflected occupy different positions in space does not seem important. Similarly it may be urged that I could conceivably have a facsimile model — if you like a working model — of my brain, which would be as accessible to my observation as my actual brain is supposed to be to the observation of the physiologist. But now the physiologist can see both the face and the reflection; he can handle both the brain and the model. Further, he must have made the copy from his previous acquaintance with the original; I should not even know my own portrait as mine if I had not independent knowledge of other faces and their portraits. When I touch one hand with the other I have a double perception; when I touch another's hand I have only a single perception. So if I *could*

actually manipulate *my own* brain I should presumably only add to that sense of embodiment, which is referred to the psychical aspect. These experiences the model would not give and the physiologist would not have. And as to the possibility of a model, is it, I will not say a conceivable, but is it a permissible hypothesis? I refer not to the unattainable feats of workmanship such a model implies, but to the fact that if it verily were a model of a living brain it would have *its own* psychical aspect. The nearest approach we know of to such a model is that which nature makes in the production of twins; and the process there runs back through all the ages of human development. To assume the possibility of any process more direct is to assume the possibility of setting aside the existing laws of nature, that of psychophysical parallelism among the rest, if it be a law of nature.

There is, then, it would seem, no way of combining these distinct 'aspects' into one concrete experience. If we are misled into imagining that there is, it is because we confound the general knowledge of brains (which is all the physicist or physiologist really has, and which we *can* share) with the concrete knowledge implied in the notion of the physical aspect or basis of our own particular experience, which we could not possibly share. And this diversity, the concreteness of the psychical side contrasted with the abstract and conceptual character of the physical, is only one among several points in which their characters manifest an incongruity incompatible with the theory of their being complementary aspects of one unity. Thus the one

is described as inextended, the other as extended; to the one all quality is relegated, the other remaining wholly quantitative; and so on. With these points, however, we shall have to deal more fully later.

Another, and in some ways stricter, interpretation still of the phrase psychophysical parallelism goes to the opposite extreme. Instead of seeking to escape, in some way or other, from the difficulties of interaction between things so disparate, — as Descartes' immediate successors did, — those who maintain this view boldly make the impossibility of such interaction their starting-point. Whatever produces a physical change must, they contend, itself be physical; whatever produces a psychical change must itself be psychical. Though it is unquestionably the case that changes in the one region accompany changes in the other, yet their place in time is to be explained entirely by the antecedent events in their own series, not at all by the simultaneous events in the other. Their parallelism is a case of coexistence simply, not of causation in any sense. If there were interaction between matter and mind, then physics, it is said, would be incomplete without a theory of psychical action, precisely as it would be, — or perhaps I should say, is, — incomplete without a theory of electromagnetism. On the other hand, states of mind, if amenable to diverse physical influences, would have to have assignable spatial relations and configurations, and so cease to be psychical. The plane of psychology, in short, is held to be distinct *toto cœlo* from the plane of physics. It is usual to illustrate the supposed absurdity of attempting to connect the two causally in some such

fashion as in the following quotation, which I borrow from Professor James. The writer quoted asks us to imagine "an idea, say of food, producing a movement, say of carrying food to the mouth." "What," he asks, "is the method of its action? Does it assist the decomposition of the molecules of the gray matter [of the brain], or does it retard the process, or does it alter the direction in which the shocks are distributed?" Supposing a case in which the gray matter is about to "fall into simpler combinations on the impact of an incident force," he then asks: "How is the idea of food to prevent this decomposition? Manifestly," he continues, "it can do so only by increasing the force which binds the molecules together. Good! Try to imagine the idea of a beefsteak binding two molecules together. It is impossible. Equally impossible is it to imagine a similar idea loosening the attractive force between two molecules."[1] It must be allowed that we cannot picture ideas in the act of altering the chemical properties of molecules; and if illustrations of this kind are conclusive, we might at once assert, as this writer does, that mind and matter are absolutely separate. But unhappily such illustrations do not help us much. If mind and matter are absolutely separate, as separate, say, as music and minerals are, what are we to make of the invariable concomitance of a mental change with a bodily change, on which the same writer insists with equal strenuousness? "*Why* the two occur together, or what the

[1] Cf. Mercier, *The Nervous System and the Mind*, p. 9; see W. James, *Principles of Psychology*, vol. i, p. 135.

link is which connects them," he adds, "we do not know, and most authorities believe that we never shall and never can know." But, even granting this, surely such ignorance is an odd reason for asserting an absolute separateness of things thus invariably conjoined. If science had proceeded in this fashion in other cases of unexplained coexistence, it would not have made much progress. I venture again to maintain that invariable concomitance and absolute causal independence are incompatible positions, and I will add further that no "authorities" have ever been able consistently to maintain both. What these people really mean when they assert parallelism and absolute separation, on the ground that like can only be produced by like, is something very different from what they seem to say, something very trivial and hardly worth saying. It amounts briefly to this, that the connexion between matter and mind cannot be a psychical connexion, and cannot therefore be expressed in psychological language; also that it cannot be a physical connexion, and therefore cannot be expressed in physical language. But since the connexion exists, there are apparently only three distinct possibilities open, possibilities, however, which are not mutually exclusive. Either, first, there must be, whether we know it or not, psychical facts not psychologically explicable, psychical events without complete psychical antecedents. Or secondly, there must be, whether known or not, physical facts without complete physical antecedents. Or thirdly, there must be an unknown something as the medium connecting and correlating the two. This last, which we may call the

speculative alternative, is that adopted in monistic interpretations such as those we have just considered. The other two may be classed together as scientific alternatives, and it is these that chiefly concern us at present.

Now on the psychological side we can at once point to a class of psychical events not psychologically explicable, viz., sensations. And on the physiological side there is certainly one fact which has so far baffled all attempts at physical explanation — I mean the fact of life itself. Here then, apart from any *a priori* considerations, we have empirical grounds for demurring to the parallelistic position "that the two things are on utterly different platforms — the physical facts going along by themselves and the mental facts going along by themselves."[1] Why sensations occur or recur, coexist together or succeed each other as they do, no psychology can explain, no psychologist has ever attempted to explain. Sensations one and all are intrusions, interferences, affections, or modifications in the mental series. So far they are proof positive that that series does not altogether go along by itself. Descartes is our best teacher here. The fearful perplexities which beset him, the contradictions into which he fell, in his endeavour to account for sensation and yet maintain this utter dualism of body and mind, are only escaped by the modern naturalist because he does not face the problem as fairly as Descartes or Malebranche did. The substitution of a psychophysical for a strictly psychological standpoint has led the modern psychologist first to regard your sensations as they are for him, not as they are for you, and then to speak of

[1] Clifford, *Lectures and Essays*, vol. ii, p. 56.

them as your subjective modifications, not as your objective presentations. He imagines your consciousness as somehow located in a sort of fourth dimension, within your head.[1] Then, assuming that all the three-dimensional changes there belong to what he calls *par excellence* the objective world, the independence of this world both of you and your sensations seems manifest; and so he concludes that mental facts go along by themselves.

The difficulties on the side of the physical series suggested by the phenomena of life are escaped in a different fashion. These, as we saw in the last lecture, consist primarily in the facts of direction and selection which distinguish the movements of living things from the motions of inanimate matter. "Tendency to equilibrium of force and permanency of form," said Huxley, in a passage which he afterwards recanted, "these are the characters of that portion of the universe that does not live, the domain of the chemist and the physicist. Tendency to disturb existing equilibrium, to take on forms which succeed one another in definite cycles, is the character of the living world."[2] In other words inertia is the distinguishing mark of the one, effort of the other; to life primarily belongs that energy which is figuratively attributed to matter. The principle of least action is the crowning generalisation of physics, that of self-preservation and betterment the first law of life. So diametrically opposed are the characters of the two that our eminent physicists with scarcely an exception pro-

[1] Descartes, it will be remembered, preferred a location of no dimensions.

[2] *Lay Sermons*, p. 75, and Prefatory Letter, p. vi.

claim the problem of life to be ultraphysical. "The only contribution of dynamics to theoretical biology," says Lord Kelvin, "is absolute negation of automatic commencement or automatic maintenance of life."[1] Nevertheless, this is precisely the doctrine which biologists and physiologists for the most part maintain and believe. The difficulties to which the pure physicist is awake they seem to escape through a happy division of labour. When a machine is already made, be it clock, dynamo, or automaton, physical principles will account for its working. So to deal with organisms, when there, is preëminently the business of the physiologists. The main question for them is not how the machine came to be, or what it is for, but how it works. "You do not explain the working of a clock by referring to a chronometric principle, but you point to the coiled spring and to the disposition of its wheels and levers; so we," they say, "when we see a unicellular organism positively heliotropic and turning to the light, or negatively heliotropic and turning from it; we do not appeal to an occult principle of life, we regard such organism as an automaton, and seek in its construction the explanation of its response. We keep closer to the purely descriptive *rôle* of science, if we simply credit such an organism with hydrotropism or chimiotropism or thermotropism than we should do if we said that it drinks when thirsty, eats when hungry, and shrinks from the cold. And since the higher organisms are but complexes of cells, we conclude that the same methods of interpretation are legitimately ap-

[1] *Properties of Matter*, p. 415.

plicable to them. For 'the most complex organism,' as Claude Bernard, the greatest of French physiologists, has said, 'is but a vast mechanism resulting from the assemblage of secondary mechanisms.'" Suppose we now turn round on that inept analogy of the clock with its occult chronometric principle; and, reminding our physiological friends that clocks not only do not exist for themselves, but neither make, mend, maintain, nor multiply — still less improve — themselves; suppose we ask how these secondary mechanisms come to be, and to assemble into connected mechanisms of vast complexity? Well, we are then at once sent away with an introduction to the biological specialist. He is the person whose business it is to answer that question. But we find he knows still less than the physiologist of the narrow range of the ultimate conceptions of physics, and looks at our question from quite another side. As we have previously seen, he takes the theory of evolution for the mainstay of *his* argument, regardless of the fact that progress and development are conceptions that do not admit of mechanical interpretation. He talks naïvely of protoplasm, bioplasm, germ-plasm, and the like, without ever suspecting that under cover of this figure of plasticity he is availing himself of psychological conceptions that he, equally with the physiologist, is bound to disavow.

And so, — spite of the psychological impossibility of accounting for sensation, spite of the emphatic declaration of the pure physicist that he cannot conceive inert, rudderless, molecules, that have no insides and undergo no change, giving rise to wondrous automata that seem

afterwards to shape and direct them, — spite of all these difficulties, the doctrine that man and the organisms beneath him are but conscious automata is made to look presentable. This is the form that the doctrine of parallelism assumes when monistic speculations as to a common substance, known or unknown, are left aside, and the axiom that disparate things cannot interact is applied to the one world of experience as sundered in twain by the Cartesian dualism. It affords quite the most impressive exhibition to be found of a fallacy to which "scientific philosophy" is especially liable — that of mistaking two halves for a whole, the fallacy again which the philosophy of science is especially bound to expose and correct.[1] If the so-called mental and material worlds were really independent and separate wholes, each going along by itself, parallelism and interaction would, I repeat, be alike inconceivable. On the other hand, if they are really members of one whole, then they cannot be severed and yet remain what they were before. To deny their interaction when so severed, on the ground that on neither side can the connecting link be found, will be true, though trivial. But on the ground of the abstract separation, to assert their causal independence is an error which the alleged parallelism at once proclaims. Constant parallelism *plus* absolute separation is, I say once again, logically so unstable a combination that of necessity one or other term must be dropped.

And now we shall find in fact that the exponents of animal automatism are continually lapsing either into

[1] Cf. Hegel, *Encyc.*, *Logik*, § 38, Zusatz.

vague monistic speculations, or subordinating the psychical series to the physical, or both. Sometimes, though more rarely, we find an author setting out by formulating parallelism with causal independence, and yet in the end subordinating the physical series to the psychical. Such an author is Wundt, who, while affirming that the action of mind on matter, if it existed, would be of the nature of miracle,[1] yet contrives to accept the Aristotelian doctrine that the soul shapes the body and to assign to voluntary impulses the *rôle* of *primum movens* in organic development.[2] But such opinions are mutually consistent only when parallelism is resolved into the almost trivial statement I have already referred to, viz. that neither from the side of psychology alone, nor from that of physics alone, is the interaction of body and mind comprehensible—a statement that is rather a methodological convention than a law of nature. It amounts to saying: Let psychologists and physicists severally attend to their own business; when they do so, their lines of work may sometimes run parallel, but will never be found to intersect. With Wundt's doctrine as a whole we have for the present no concern and certainly no quarrel.

More serious and important is this doctrine of conscious automatism as propounded by such purely scientific writers as Huxley and Du Bois-Reymond, and here the lapse is always to the side of subordinating the psychical to the physical. In Huxley's case indeed

[1] *Ueber psychische Causalität und das Princip der psychophysischen Parallelismus*, *Philosophische Studien*, Bd. x, p. 33.

[2] *o.c.*, p. 332.

the leaning towards the primacy of the physical side is often so pronounced that it can hardly be called parallelism at all. Spite of his vehement repudiation of the title of materialist as an affront to his untarnished agnosticism, I know of few recent writers who on occasion better deserve the title.[1] Let me quote a passage or two from his famous Belfast Address to the British Association, *On the Hypothesis that Animals are Automata and its History*,[2] the appropriate pendant to the address given by his friend Tyndall on the same occasion. "It may be assumed then," he remarks after describing certain well-known experiments by Pflüger and Goltz, "that molecular changes in the brain are the causes of all the states of consciousness of brutes. Is there any evidence" he remarks, "that these states of consciousness may, conversely, cause those molecular changes which give rise to muscular motion?" He answers: "I see no such evidence." And presently he continues: "It is quite true that, to the best of my judgment, the argumentation which applies to brutes holds equally good of men; and, therefore, that all states of consciousness in us, as in them, are immediately caused by the molecular changes of the brain substance. It seems to me that in men, as in brutes, there is no proof that any state of consciousness is the cause of change in the motion of the matter of the organism." He tones this down somewhat by describing consciousness as related to the mechanism of the body

[1] Still, on the whole, it would be far truer to charge Huxley with inconsistency than with deliberate materialism.

[2] *Collected Essays*, vol. i, cf. pp. 239 ff.

'simply as a collateral product of its working,' but expressly declines to describe muscular motion as even a collateral product of volition. At first sight this one-sidedness seems very unreasonable, and in any case is certainly not strict parallelism. We naturally urge that it is not in itself more inconceivable how matter can act on mind than it is how mind can act on matter. The inconceivability Huxley fully admits. "How the one phenomenon causes the other," he says, "we know, as much or as little, as in any other case of causation; but we have as much right to believe that the sensation is an effect of the molecular change as we have to believe that motion is an effect of impact." But against the admission that volition causes physical changes, there is, over and above the general inconceivability of all transeunt action, a further difficulty — a difficulty that for naturalism amounts to an absolute impossibility. For naturalism sets out from, and is founded on, the mechanical theory, and that, as we have abundantly seen, postulates a complete and rigorous concatenation of all physical changes into one vast, undeviating process. 'Collateral products,' comparable to the shadow of a moving train or the sound of its whistle, it is thought — very inconsequently, by the way — may perhaps be imagined; for these at least, though they may indicate, can never influence, the working of the machinery. So regarded, the psychological distinction between sensation and response, vital though it is, sinks into nothing. The very notion of action becomes an illusion. The material series indeed goes along by itself, but the mental series only

goes along by itself as does a succession of shadows. "If these positions are well based," says Huxley, "it follows . . . that . . . the feeling we call volition is not the cause of a voluntary act, but the symbol of that state of the brain which is the immediate cause of that act."[1] How far those positions are well based we must further consider in the next lecture.

[1] *Collected Essays*, vol. i, p. 244.

LECTURE XII

THE CONSCIOUS AUTOMATON THEORY

Doctrine of Conscious Automatism or Psychical Epiphenomenalism examined. *It is maintained* (1) *that there can be no causal connexion between the psychical and the physical series, and yet* (2) *that the psychical is a 'collateral product' or* epiphenomenon *of the physical. The very statement is thus self-contradictory.*

Mind thus becomes impotent to control matter. In accepting this position Naturalism is really at variance with itself. For (1) *it elsewhere assumes that mind is an efficient factor in biological evolution, and* (2) *the physicist proper declares that the laws of matter alone will not explain life.*

However, taking the doctrine as it stands, there are these two articles specially to consider: (a) *the primacy and independence of the automaton, and* (b) *the illusory character of psychical activity. The latter to be discussed first.*

Huxley's endeavour to save himself from the charge of fatalism only results in substituting a blind necessity for a logical one. Again, he urges that we are free, "inasmuch as in many respects we can do as we like." But how so, if "volitions do not enter into the chain of causation of the action at all"? Turning now to the mechanical world, of which the automaton is a part, we find no activity within that.

There is thus activity nowhere! How then do we come to be talking of it even as illusory? And if conscious automatism is true, how is illusion or error possible? The ground on which Descartes called man a conscious *automaton — because of his intellectual and voluntary activity — is ignored by Huxley and others. On their premisses Descartes would have called man a* mere *automaton. Huxley turned against himself. The psychical series will not resolve into a series of feelings, and "volition counts for something as a condition of the course of events."*

An antinomy thus reveals itself—that of the teleological and the mechanical. The conscious automaton theory the result of the naturalist's preference for materialistic terminology. Attempts to find a half-way through loopholes within the mechanical theory turn out to be futile.

In the preceding lecture we were occupied with a general survey and some passing comments on the doctrine of psychophysical parallelism, and the various modifications of it now in vogue. Leaving aside one form of it, admissible but unimportant, which merely announces the irrelevance and incongruity of psychological conceptions in physics and *vice versa*, we found the others result from reflexion on the intimate correspondence between mind and body, which physiological and comparative psychology now set before us. The first and most obvious inference which suggests itself to an observer confining his attention to these facts, is that mind and body mutually influence each other. Yet such an inference has failed to maintain itself in the face of the dualistic conceptions with which we one and all first approach these questions. The more psychologists and physicists elaborate their respective data in isolation, the more inconceivable psychophysical interaction becomes. Under these circumstances monistic hypotheses naturally present themselves, and to a monism of some sort we must, no doubt, in the end come. But the monism now in favour with scientific men only escapes the lesser difficulty of parallelism *and* absolute separation, by incurring others greater. For if the order and connexion of physical things be that of the mechanical theory, and if the order and connexion of ideas conforms to that of physical things,

it matters little whether we have one substance or two. Either way our ordinary common-sense conception of mental activity and initiative becomes altogether illusory. A monism that could dispense with this mechanical parallelism would be worth having. But if mind has simply to shadow the working of an automatic mechanism, it matters little whether we call it another aspect of the same substance, or a collateral effect in a distinct substance; or whether, leaving the whole question of substance aside, we call it an epiphenomenal accompaniment of physical phenomena. Agnosticism, in fact, insists that, if there are two substances, they are both unknown; but on grounds of economy acknowledges a preference for one, provided it is unknowable. In any case, the dualism of the psychical and physical series remains as Descartes left it, save that it is, if anything, still more pronounced. He, too, is in the main the author of that doctrine of animal automatism by which nowadays the relation of mind and body is said to be 'scientifically' described. This, then, is the doctrine we have specially to examine.

We have already noticed one serious ambiguity about it, on which it will be well to comment somewhat further. On the one hand this doctrine maintains, first, that there is no causal connexion between the two series and that there cannot be any; yet on the other, in the second place, it represents conscious states as collateral products of the physical series. A new ground for the first of these positions, over and above the complete disparateness of mental and material facts, is found in the doctrine of energy as mechanically understood. This is

opposed both to the outgoing of energy from the physical side as well as to the incoming of energy from the psychical side. As to the second position, that is simply a desperate attempt to save appearances in the eyes of logic. Constant coexistence and correspondence imply causal relation of some sort. The physical side will brook no interference and its processes are held to be complete in themselves; but the vague and, so to say, impalpable character of the psychical series, it is imagined, will allow us to regard it as a collateral effect, an effect that yet takes nothing from the physical energy of its cause. The figures used to describe this relation, such as the shadow of the engine, the sound of the clock-bell, the colours of a mosaic as distinct from the stones that compose it, and particularly the newly coined phrase *epiphenomenon* (or, as the Germans say, *Begleiterscheinung*), plainly indicate an endeavour to attenuate to the uttermost a connexion which after all it is impossible absolutely to deny. It is scarcely needful to dilate on the transparent inconsistency of such a position. Even shadows and sounds involve work, though possibly its amount is infinitesimal in comparison with that expended in driving the machine. And this is a point which physicists are not slow to urge when, with much more reason, it is said that mind guides the material mechanism without the expenditure of work. The physicist is not entitled to use cause in two senses. If mental states are simply products of molecular conditions, however collateral, then these products must count in with the rest. To say that consciousness is an *aura* or epiphenomenon of the organism, which

itself is but a mechanical automaton, is to shirk the difficulty, not to face it. If mental states are not simply products of material conditions, then matter must interact with something else to produce them. The clock will not sound in a vacuum nor cast shadows in the dark.

But the most serious point in this doctrine of conscious automatism is that which is also its cardinal point, the impotence of mind to influence matter. The practical consequences which logically follow are serious, but I do not now refer to these: It is true, as Huxley says with reference to them: "The only question which any wise man can ask himself, and which any honest man will ask himself, is whether a doctrine is true or false. Consequences will take care of themselves; at most their importance can only justify us in testing with extra care the reasoning process from which they result." But it is exclusively the theoretical consequences to which I propose to ask your attention with a view to this very testing of the doctrine from which they follow.

To begin then, I would observe that in this doctrine of animal automatism, naturalism is really at variance with itself. For throughout its exposition of biological evolution it assumes — though often covertly — that mind *is* an efficient factor in organisation. We have seen Mr. Spencer adroitly bringing consciousness on the scene when the complexity of the organic reflexes, which are supposed to be purely mechanical, necessitates such direction, much as a barrel organ requires some one to select and start the appropriate tune. Again, in the theory of natural selection it is everywhere taken for granted that instincts, habits, and inclinations are factors equally as

potent as anatomical structure or physiological process. Thus Darwin speaks of the sense of hunger and the pleasure of eating as "no doubt, first acquired in order to induce animals to eat."[1] He also thinks we may safely infer that the parental, filial, and social, affections "have been to a large extent gained through natural selection." The upholders of animal automatism, however, who make a shift to account for eating by a physical process of chimiotropism, ought to replace social impulses by various homeotropisms, and so forth. Moreover, it is not merely constant concomitance that has to be accounted for, but a constant concomitance that is teleological. As Professor James pertinently urges: "If pleasures and pains have no efficacy, one does not see (without some such *a priori* rational harmony as would be scouted by the scientific champions of the automaton theory) why the most noxious acts, such as burning, might not give thrills of delight, and the most necessary ones, such as breathing, cause agony."[2]

But not only is the automaton theory inconsistent with the doctrine of evolution as ordinarily accepted, it is also, as we have had occasion more than once to notice, inconsistent with the principles of mechanics as these are presented by their authorised exponents. Those principles will account for the working of a machine, but they will not account for the machine itself. They furnish the inventor with his means; they do not furnish him with his ends. And let it be remembered further that according to the strict naturalistic philosophy machine and

[1] *The Descent of Man*, vol. i, pp. 80 f.

[2] *Principles of Psychology*, vol. i, p. 144.

machinist alike are possible in only one way, as *lusus naturæ*, so to say; as casual and more or less exceptional results of integration of matter and concomitant dissipation of motion, to use again Mr. Spencer's formula.[1] We have from that no warrant to conclude that the cosmos is more than a lucky corner in an illimitable chaos, comparable to a single truly rounded pebble which we may chance to find on a whole beach of shapeless stones. What seems at first sight the result of intelligent guidance turns out to be but an incidental consequence of those secondary distributions of matter and motion that accompany the primary distribution. The existence of organisms regarded as automata — though mechanically as inexplicable, if we take any given organism by itself, as Paley's watch on the heath is inexplicable if there be no watchmaker — is accounted for then only after this haphazard method. Nevertheless, the physicist proper, confining himself to proximate causes, declares the origin of animate machines, even more than the construction of inanimate, to be a result which the mere laws of matter and energy will not explain. To set against this we have nothing but Mr. Spencer's poetic evolution of cosmic evolution, in which even the fixity of definition demanded by logic is infected by the subject matter; and all the terms, like the 'instabilities and nascencies' they describe, are in a state of perpetual *μετάβασις εἰς ἀλλὸ γένος*.

However, for the moment accepting this result as part and parcel of the naturalistic scheme, let us see how

[1] This, by the way, is very ancient doctrine. It is carried out fearlessly to its remotest consequences by Lucretius. Cf. *De Rerum Natura*, bk. iv.

things stand. The organism is an automaton that has arisen without guidance. "What we call spirit and spontaneity," to recall Huxley's striking words, is already banished from this side. And on the other side, when we turn to the consciousness that shadows the working of this automaton, there is no real independence, and only the illusion of activity is left. Though but a collateral product, it still *is* a product; the automaton is physically independent of the consciousness that accompanies it, while the consciousness in the absence of an adequate automaton is an impossibility. We have here then two articles of the conscious automaton doctrine which we must specially consider: (1) the primacy and independence of the automaton; and, (2) the illusory character of psychical activity. I propose to defer the first of these for a while, and for the present to continue the examination of the latter.

When Huxley[1] assures us that our voluntary acts are as purely mechanical as our reflex actions, and that 'volitions' simply accompany but do not enter into the chain of their causation at all, the only voluntary acts he contemplates are bodily movements. But the theory inevitably commits him to a far more extravagant position. If the motor processes, with which our voluntary consciousness is parallel, are part of the unbroken physical series, the cerebral processes that are attended by intellectual consciousness are equally parts of that physical series. If volitional activity is illusory, intellectual activity is illusory also. If voluntary movements are at bottom determined by motor reflexes, then, by parity of reasoning,

[1] Cf. *Collected Essays*, vol. i, p. 241.

thought is at bottom determined by nervous connexions. *Traumen ist leicht und Denken ist schwer*, say the Germans: dreaming is easy and thinking is hard. So it seems; but nerve currents, like other physical changes, take always the line of least resistance. Only, when the resistance by the easiest line is comparatively great, the process is slower; and what we call specially thinking is but the collateral product of the friction induced. On the physical side there is no effort, and on the psychical the effort is only seeming; on the physical side there are no ends, and on the psychical, the ends do not really control the means. Logical processes become in truth but the concomitants of physiological processes, and physiological processes ultimately resolve into the integration of matter and the dissipation of motion, the steady downward trend of inert elements back again to that equilibration which sometime or other, nobody can say how or why, must have been disturbed. Once the dice have left the box every detail of their fall is entirely and absolutely determined; and what is true of them is true of every minutest movement of every minutest molecule since that first catastrophe took place. The dance of motes in a sunbeam and the dance of molecules in a brain are, in this respect, altogether on a par; though in the one case we believe there is a psychical *aura*, while in the other we say there is none. Simply and solely because these brain movements are what they are, the attendant psychical shadows, their 'collateral products,' are what they are, whether what we call strength of will or what we call moral impotence, whether pure reason or incoherent raving.

And wherefore shall we not call this fatalism? "Because," replies Huxley, "I take the conception of necessity to have a logical, and not a physical foundation."[1] This is a strange and perplexing answer and suggests many reflexions. In the first place, if our mental conditions are simply 'the symbols in consciousness of the changes that take place automatically in the organism,' then logical necessitation is like the rest. It, too, is but the shadow or symbol that actually accompanies organic changes that actually take place. Its existence is a fact, its supposed significance is an illusion, precisely as the existence of 'the states of consciousness called volitions' is a fact and their supposed efficacy an illusion. Logical necessitation is quite as important to the spiritualistic view as voluntary freedom, but the doctrine of automatism excludes both. Accordingly Huxley argues quite consistently when he says elsewhere of this idea of necessity: "It does not lie in the observed facts and has no warranty that I can discover elsewhere. For my part I utterly repudiate and anathematise the intruder. Fact I know, and Law I know; but what is this Necessity save an empty shadow of my mind's own throwing?"[2] How the shadows come to throw shadows, even empty shadows, is a nice question. Illusion seems as hard to explain from such premisses as necessary truth. Descartes, it will be remembered, traced error to the independent activity of will. But that being gone, even throwing empty shadows should be impossible. However, leaving this aside for

[1] *Methods*, p. 245. Cf. below, Lecture XVIII.

[2] *op. cit.*, p. 161. But Huxley gives a very different version of this conception of necessity in other places. Cf., *e.g.*, vol. vi, p. 285.

the present,[1] let us note in the next place, that — though not necessary in the logical sense, still — this concomitance of mental conditions, as collateral products of the changes which take place in the organism, is regarded as actually inevitable. It is natural law. Granted that we are only entitled to say that dice actually do fall, when they are thrown from the box, not that they must fall; granted that we may only say that their after course *is* entirely and absolutely the result of the initial conditions, not that it must be; still this is enough. Though not a logical necessity, yet the mechanical character of brain processes and their rigorous mechanical connexion with the other phenomena of the universe, also fundamentally mechanical, is held to be a fact. Also it is held to be a fact that, to quote our authority, "the soul stands related to the body, as the bell of a clock to its works, and consciousness answers to the sound which the bell gives out when it is struck." Again, I say, this is enough. There is no logical necessity, certainly, about a material configuration and its motions. Be it on a great scale or on a small, we can readily imagine it as other than it is, or as not existing at all. It may be logically as contingent as you please; it may never have been decreed; in this sense there may be neither 'ought' nor 'shall' nor 'must' about it. Theistic notions of fate, one need hardly say, are altogether alien to the naturalistic standpoint. But a conscious automaton I am actually — on the naturalistic assumption, at all events. For that philosophy, matter and energy are indestructible and ingenerable, and the laws of their working rigor-

[1] Cf. Lecture XVIII.

ous, exact, and unalterable. And this, beyond all cavil, is what is meant by natural or blind necessity, *ἀνάγκη*, as the Greeks called it. This physical necessitation, according to the doctrine of conscious automatism, applies without the possibility of abatement to all our thinking and all our acting. "We are," as Huxley says, "but parts of the great series of causes and effects which in an unbroken continuity composes that which is and has been and shall be — the sum of existence." [1]

Nevertheless we are told that we are free, "inasmuch as in many respects we can do as we like." But such words do not mean at all what they seem to mean. They refer not to purposes carried out by an efficient agent and arbiter; they simply indicate a special class of pleasures, the pleasures that sometimes accompany motor reflexes. This is all they mean in fact, and all they can mean, if conscious automatism be true. The frequent use of illustrations, like one used long ago by Spinoza, shews clearly how little action such 'doing as we like' is supposed to involve. "Imagine, if you can," said Spinoza, "that a stone, while its motion continues, is conscious, and knows that, so far as it can, it endeavours to persist in its motion. This stone, since it is conscious only of its own endeavour and deeply interested therein, will believe that it is perfectly free, and continues in motion for no other reason than that it so wills. Now such is this freedom of man's will which every one boasts of possessing, and which consists only in this, that men are aware of their own desires and ignorant of the causes by which those desires are deter-

[1] Huxley, *Collected Essays*, vol. i, p. 244.

mined."[1] Spinoza, it may be observed in passing, is concerned with free will, while we are concerned with mental activity simply. Still the point of the illustration holds for both. The activity, we are to understand, is as illusory as the freedom. If the stone's motion were due to itself, we should call the stone active; because it does not move itself, we call it inert and inactive. So, if the mind can really determine the movements of the body, as it is assumed to do in voluntary acts, then such acts deserve the name, and the mind is truly regarded as active. But if voluntary acts are purely mechanical, if "volitions do not enter into the chain of causation of the action at all" they do not deserve the name of acts and the activity of mind is an illusion.

And now that we have seen clearly what a very one-sided business this conscious automatism is, now that we are satisfied of the complete dependence (according to this doctrine) of the epiphenomenal series on the physical or phenomenal series, of which it is in some mysterious way but the collateral product, let us turn for a moment to the primary series, and recall the deliverances of modern dynamics concerning the sort of activity allowed there. The word 'action' and other words, ordinarily connoting activity, occur often enough. Thus we have: 'Action and reaction are equal and opposite'; 'Unlike electricities attract, and like electricities repel, each other'; and so forth. But efficiency is everywhere strenuously disclaimed. The very notion of cause

[1] *Letters*, No. 62, quoted by Sir F. Pollock, *Spinoza, his Life and Philosophy*, p. 208.

is voted a fetish to be replaced by equations, neither side of which can with any propriety be called either cause or effect. And accordingly the distinction of past and future, otherwise so fraught with meaning, becomes insignificant; the future here lies just as open to the scientific calculator as the past; both are alike fixed and clear. The whole course of things is one effect, one process. An efficient cause, a *primum movens*, there must have been at the beginning; but, on the other hand, such beginning may be indefinitely far off. So we might say of a body moving uniformly in a straight line, that it must at one time or other have been set in motion from without, but no one can tell how long ago; at this present time, however, it is under the action of no force. Though its position in space be regarded as changing continuously, there is no new action, no fresh interference. And so from the standpoint of the mechanical theory we are told to regard the world. Since it was first set a-going, this too has been free from the action of external forces and has received no accession of energy. Inert as a whole, and inert in every part, there is nowhere either choice or striving. The physicist's use of the term energy, must not mislead us, and will not, if we bear in mind the strictly mechanical interpretation which he puts upon it. The actual energy of a given mass depends solely on its speed, and this the body has no power to alter. It can receive only such energy as another body imparts to it, and can only part with such energy as another body receives from it. The *nature* of such dynamical transferences is a mystery; the *law* of them is exact in all cases and

always devoid of ambiguity. Matter and law are supreme throughout; there is nowhere either spirit or spontaneity. Some of the older materialists, as Toland and Priestley, insisted on the essential activity of matter, being misled by Newton's metaphors of attraction and repulsion and by such notions as Boscovich's of centres of force. But the mechanical theorists *pur sang*, as we have seen, will have none of this. The world as a whole, looked at as they conceive it, seems comparable to nothing so much as an upturned hourglass. The glass could not start itself; this, at least, was an interference from without, but it was an interference before the process, not during it. Science, which is confined to describing the movements of the sand, can give no account of this catastrophe, and no meaning to it. But once the glass is turned, the downward dance of the last grain to move is just as inevitable as that of the first; and the several movements being fixed, any collateral consequences of them must be taken to be fixed too.

There is then activity nowhere. The automaton would belie its name if its spontaneity were not as illusory as that which Spinoza imagined the falling sand to dream of. How then do we come to be talking of activity at all? If there were such a thing on the physical side, then possibly we could understand the assertion that on the psychical side it was non-existent. Or if mind be really active, we can readily understand that matter, in contrast to it, should be found to be inert. When it was a question whether the sun or the earth was to be regarded as fixed, it was plain that one or other moved; but would it ever have been maintained that the motion

of one of them was illusory, if both had been still? Once grasp the notion that the material world is wholly devoid of activity, and that there is no real activity in that mental world which is but its shadowy accompaniment, and there can be no question of "*banishing* spontaneity," no call to explain *away* the illusion of being "up and doing." We cannot banish the non-existent, or expose a counterfeit of what, as genuine, is unknowable and inconceivable. Paradoxical though it may seem, yet even the illusion of activity and spontaneity is certain evidence that activity and spontaneity somehow really exist; and since by common consent they are not found in the physical world, they must be in the psychical.

And here let me go back for a moment to insist further upon an objection just now mentioned, the full scope of which will be still more apparent later. If the doctrine of conscious automatism were true, this illusion and error equally with logical necessitation would be inexplicable. The apposition of brain-state and concomitant mind-state is declared to be the closest possible: the one keeps pace and varies with the other, as shadows follow after, and change with, the moving figures that cast them. The clock cannot sound six when the bell only strikes once. If, as Huxley tells us, "our mental conditions are simply the symbols in consciousness of the changes that take place automatically in the organism," how can they belie these? Concrete particular must then correspond immediately to concrete particular. To the continuous series of *neuroses*, molecular changes in the automaton, will answer *pari passu*, a con-

tinuous series of *psychoses*, fleeting mental changes. As collateral products of the physical chain these miscalled symbols have no direct connexion, either causal or logical, with each other. Sensations or feelings, mere items that cannot symbolise anything or be either true or false, we might call them; but judgments they could never be. Relations of coexistence and of succession they will have; but the recognition and affirmation even of these will be a fact utterly beyond, and distinct from, them, not an item among the rest. Still more distinct — upon another plane — from their mere existence as collateral products, must be any significance they may carry of existence and relations beyond their own. The consciousness in which they are symbols is not comparable with the ground on which shadows fall. Objects may project shadows, but shadows do not project objects, or set aside the order in which they occur for an order that explains their occurrence.

Great as is the disparity between sensations and molecular motions, it is as nothing to the disparity between molecular motions and thought. Thus Descartes, to whom, as we have seen, the entire doctrine of conscious automatism is due, habitually used the same term "idea," to denote the cerebral excitation, as well as the sensation proper. The same ambiguity is found lurking again in Locke's "new way of ideas," as Stillingfleet called it; and was the immediate occasion of Reid's vigorous polemic, now too much forgotten. For the sensory idea is still very much a *tertium quid*, neither purely mental nor purely material — as even Huxley's phrase 'collateral product,' incidentally shows. But for

Descartes, at all events, these sensory ideas were not necessary to mental life, which he regarded as essentially active and independent of matter. Even for Locke, the intellectual elaboration of ideas depended on the mind's own initiative and effort, in which matter as such had no part or share. In short, the dualism for these thinkers was not between sensations, as ideas proper, and cerebral impressions or material ideas; but between mind, as active in thought and volition, and matter as merely extended and inert. In other words, the dualism was between matter and spirit; man being regarded as an inexplicable blending of both. I have no concern now to dwell upon the inconsistency of the philosophy of Descartes in this point, — where again, by the way, he was followed in the main by Locke. Having emphasised the substantial duality and essential disparity of mind and matter, a philosopher who boasted that he had admitted nothing as true but what was clear and distinct, ought not to have been content to say that in human nature both were merged, as it were, into one substance constituting literally a conscious automaton. What it interests us to note, however, is merely this: Simply and solely because of his intellectual and voluntary activity was man, for Descartes, a *conscious* automaton, and for lack of such activity the brute a *mere* automaton. In such intellectual and spontaneous activity lay the essential and necessary characteristics of spirit. Sensations and other 'passive states' were for Descartes as inexplicable from the side of mind as they were from the side of matter. They were not the mind's handiwork; and they existed solely for the benefit of the

composite whole of mind and body, to indicate what things are beneficial or hurtful to that. They were not to be regarded as elements of knowledge; for this by their irreparable confusion and obscurity they were altogether unfitted. Thus widely then did the conception of man as a conscious automaton, which the founder of the mechanical theory entertained, differ from that which Huxley imagined him to hold, and held himself.

The question then arises: Can this spirit and spontaneity that for Descartes and Locke were the inalienable property of mind, can these be banished from the psychical world, as assuredly they must be if the modern doctrine of automatism is to stand? What are the facts? It is all very well for the upholders of automatism to say there is no room for them, but what if they are there? *Prima facie* their reality is unquestionable, and the world at large would doubt the sanity of one who should go about with great pains and labour to prove it. But what then are we to say of our modern naturalists who claim to disprove it? Every man knows the difference between feeling and doing, between idle reverie and intense thought, between impotent and aimless drifting and unswerving tenacity of purpose, being the slave of every passion or the master of himself. And what he finds in his own experience — this fundamental contrast of passivity and activity — he believes to be shared by all his fellow-men, nay, though in less developed forms, by every living thing. Experience in every case consists in interaction between individual and environment, an alternation of sensitive impression and motor expression, the one relatively passive, the other

relatively active. Absolute activity and absolute passivity are limiting conceptions to which we have no answering experience, the one being commonly attributed to God only, and the other only to primeval matter. Devoid alike of creative efficiency and of the inert indifference of senseless clay, each man finds himself, and believes all other sentients to be, at once sensitive and reactive, feeling as well as receiving, and prompted by feeling to act. It must surely ever remain futile, nay, even foolish, to attempt to explain either receptivity or activity; for what is there in experience more fundamental?[1] And being thus fundamental, the prime staple of all experience, it is absurd to seek to prove them real, since in the first and foremost sense of reality the real and they are one. What then, I ask again, are we to say of the attempt to disprove this reality?

It is useless for our opponents to reply that they have no intention of denying the reality of consciousness, that on the contrary they admit an answering psychosis to every neurosis. But they insist that the psychoses shall be always and wholly determined by the neuroses, and the neuroses in no sense and never determined by the psychoses. They claim, supported by a shallow and perverted psychology, to treat all psychoses as affective or sensational, calling volitions feelings, and regarding them equally with sensation as but the shadows or symbols of molecular processes in the brain. I do not propose to remark further on the inadequacy of this account even of the sensational and cognitive phase of consciousness. But if our acts are only feelings, only symbols of changes

[1] Cf. below, Lecture XIV and Lecture XIX.

which they in no wise produce, changes predetermined in the very structure of the physical world as a mechanism, then they are unreal, they are not what they seem to be. If consciousness is powerless to affect the neural process, *a fortiori* it is without effect on the external changes that are consequent upon these. And this is a statement from which the upholders of the automaton theory do not shrink. When we say that man has subjugated nature and changed the face of the earth, this is only to mean that the building of cities, that all the manifold triumphs of art and civilization, are but part and parcel of the one vast mechanical process, to which the upheaval of volcanoes and the formation of crystals in their cooling crust also belong. The consciousness of aims, acts, efforts, that accompanied those miscalled artificial processes, was not the source of their supposed teleological characteristics. The physical series all through has been self-sufficient, free from all extra-physical direction, alike where a psychical series has been its collateral product, and where it has not. Everything teleological and directive is either absent or recedes asymptotically into the indefinite past. And yet we are not to conclude that the consciousness of activity is illusory because the psychical series of 'feelings,' we are to understand, like the physical series, goes along of itself. Not to insist further on the fact that this strict parallelism is never upheld, that the psychical series only goes along of itself in the sense of not *reacting* upon the physical series on which it is functionally dependent, let us ask: What according to this view is the psychical series?

In 1868 Professor Huxley wrote these words: "We

live in a world which is full of misery and ignorance, and the plain duty of each and all of us is to try to make the little corner he can influence somewhat less miserable and somewhat less ignorant than it was before he entered it. To do this effectually it is necessary to be fully possessed of only two beliefs: the first, that the order of Nature is ascertainable by our faculties to an extent which is practically unlimited; the second, that our volition counts for something as a condition of the course of events."[1] With this, I take it, most of us agree; but what are we to say of the following emendation of this second belief substituted by Professor Huxley as a foot-note in 1892? Our volition, "or to speak more accurately," he then added, "the physical state of which our volition is the expression?"[2] Not, be it remarked, the physical state which is the expression of our volition, whereby it might 'count for something' in the course of events. Not this, but the physical state of which our volition is itself the expression is the new gloss! Is it possible to make these two statements mean the same thing? For my part I say it is not possible. Is it possible to prove the earlier statement illusory? Again I say it is not possible. Illusory experience obviously implies, as I have already urged, a counterpart experience by which its falsity is made manifest; absolute illusion, like absolute motion or rest, cannot be experienced. The contrast between receptivity and activity is essential to the experience of either of them, that is to experience at all. A paralytic is the subject of illusion when, having willed to make a movement, he is

[1] *Collected Essays*, vol. i, p. 163. [2] *l.c.*, note.

unaware that no movement has resulted; but such illusion is possible, only because he has previously found his volition effective. The spectators of an epileptic under seizure may be under the illusion that the man is acting violently, but again only because they have previously seen like violent action in persons who were responsible. The conscious automaton theory combines and generalises these two cases of illusion, so as to exclude the very experiences which makes the illusoriness apparent. On the psychical side, according to them, all our volitions are like those of the paralytic; on the physical side all our overt movements are like those of the epileptic. A conscious automaton is thus like a paralytic and an epileptic rolled into one, the impotent volitions of the first keeping step with the motor discharges of the second. To complete the figure we must, as I have lately remarked, extend it to intellectual activity too, and resolve thinking into an orderly raving or reverie that accompanies physiological 'cerebration.'

But let us go back to the question: What exactly is the psychical series? for the sake of which I was led to quote Huxley's comment on himself. According to his unamended creed, we find volitions conditioning the course of external events; whereas according to his address on Animal Automatism, a volition is a 'feeling' merely: it is not the cause of a so-called 'voluntary act' but "a symbol of a state of the brain." But how then, we ask, can it 'count for something as a condition of the course of events'? If the psychical series cannot intrude into the physical, then the course of events, into which volition enters as a determinant, must

itself be part of the psychical series. Huxley, presumably, decides for this alternative, for on proceeding with his exposition of agnosticism he tells us that "in itself it is of little moment whether we express the phenomena of matter in terms of spirit, or the phenomena of spirit in terms of matter."[1] But what in the present case are we to make of this result? It is plain that we shall now have got two psychical series; one to which the individual's volition directly belongs, and another consisting of the general course of events, to which it does not directly belong. When, then, we describe this general course of events from the spiritual standpoint, the individual's volition counts for something, as conditioning that course, and each man's environment, his 'little corner,' is affected by what he thinks and says and does. When, on the other hand, we describe this same course of events from the material standpoint, there is no place for such activity and efficiency. But surely these two 'highest truths,' as Huxley apparently means to call them, are as hopelessly at variance as were the Aristotelian and Christian dogmas which the scholastics were wont to maintain side by side. Had Huxley too, we wonder, a doctrine in reserve like theirs of a 'twofold truth'? Did he too mean to advocate a sort of 'book-keeping by double entry,' one in spiritualistic terminology, and one in materialistic? Anyhow the notion of a conscious automaton, which is said to result from combining the two, proves to be a palpable contradiction. If we cannot give the lie to our direct experience, whence all our conceptions of activity and the realisation of ends

[1] *o.c.*, p. 164.

are derived, and if also we cannot deny the unbroken concatenation of all things, whether organic or inorganic, in accordance with strictly mechanical laws, we are face to face with a most serious antinomy — the old antinomy of the teleological and the mechanical, in a word.

Coming upon this antinomy in this wise, the first step towards a solution that suggests itself is to determine which is epistemologically the more fundamental standpoint, that in which the spiritualistic terminology is employed, or that in which we employ the materialistic. We cannot be content to leave them on a par, confronting each other but in irreconcilable antagonism. This would only aggravate the antinomy. The conscious automaton theory, as we have seen, does not leave them on a par, but decides to stand ultimately by the latter. "The materialistic terminology," Huxley has told us, "is in every way to be preferred. For it connects thought with the other phenomena of the universe, . . . whereas the alternative, or spiritualistic terminology, is utterly barren, and leads to nothing but obscurity and confusion of ideas." No wonder then that naturalism, seeming to find clearness and distinctness on the one side, and on the other obscurity and confusion, ventures to discredit the plain testimony of experience and to declare our power over nature illusory, spite of the violent absurdities to which such a declaration leads and the inconsistencies it entails upon the naturalistic philosophy itself. We are thus brought again to the second of the two positions that we had reserved for special examination, the assumed primacy of the physical series, on which the position that we have just examined, the denial of psychical activity

and initiative, is based. But I do not propose to enter upon the discussion of that second position at once. It leads so directly to the subject of agnosticism that I will ask you to consider first another question which will afford us a convenient opportunity of gathering up some of the results of this long examination of naturalism.

So far it has been assumed that the mechanical theory shuts us up to a rigorous determinism incompatible with teleology. This is unquestionably the prevalent view, but is there no escape from it? Is there no way in which mind can influence matter without interfering as it were 'miraculously' with mechanical laws and so far subverting the supposed foundations of natural science? Personally I believe there is no way. If the Laplacean conception which we have taken as the text of this whole discussion is to hold in its entirety, it is even more certain that there is in the physical world no room for man, than it is that, as Laplace boasted, there is no need for God. We must say—and the naturalists we have seen have had the courage to say it: The physical world is a complete whole in itself, and goes along altogether by itself. We must say: The very same laws fundamentally, that determine the varying motion of the solar system, bring together from the four corners of the earth the molecules that from time to time join in the dance we know as the brain of a Dante creating immortal verse, or as the brain of a Borgia teeming with unheard-of crimes. And finally we must say: The presence of mental epiphenomena is as irrelevant and immaterial to the one result as is their absence to the other.

Nevertheless attempts have frequently been made — and are continually being renewed — to find in the mechanical theory itself some loophole of escape from these absurdities. The first of these was broached by Descartes himself in the famous doctrine that the soul from its punctual seat in the pineal gland directed the movements of the animal spirits as it willed. The quantity of motion, the product of mass × velocity, Descartes maintained was constant, but its direction he imagined was more or less indeterminate. This was afterwards shewn to be a mistake. Descartes, in fact, like Mr. Herbert Spencer after him, was ignorant of the full meaning of the principle known as the *Conservation of Momentum*. According to this principle, however, the direction of a motion is as completely determined by mechanical conditions as its speed is. The one, as little as the other, can be altered without an external force; and in mechanics, external force implies a second mass moving with an equal and opposite acceleration to that of the mass said to be moved. Had Descartes but realized this, urged Leibniz, he must have seen the mechanical impossibility of the soul directing the flow of animal spirits in the way he supposed; he must have come round to the doctrine of the preëstablished harmony as the only solution.[1] The much simpler plan of denying the unconditional supremacy of the laws of motion was hidden from Leibniz, though seen by Kant. But more of this hereafter.

Other attempts set out from cases in which the determination of a movement, or of the course it shall

[1] Cf. Leibniz, *Théodicée*, §§ 60, 61.

take, are said to be theoretically possible without the expenditure of energy. Take a body at rest in a position of completely unstable equilibrium: you may suppose it as large as you like, yet the work to be done in upsetting it may be less than any assignable amount, have, that is to say, no limit but zero. Perhaps the most impressive instance of this kind is that of the blasting of Hell Gate on the Hudson River some twelve years ago when, a little girl laying a finger on an electric button, some million tons of earth and water were shot upwards with a deafening roar. The brain change that determined that finger movement was a case of disturbed equilibrium perhaps more wonderful still, infinitesimal compared with the resulting eruption — and that might have been indefinitely greater than it was. Yet there is no ground for saying that even the inexpressibly delicate brain discharge was due to an initial disturbance involving no transference of energy. To suppose that matter in however unstable a condition can be set in motion without receiving any energy from without is not to find a loophole within the mechanical theory, but to deny the absolute validity of its most fundamental conception — that of inertia. If such an assumption is legitimate, the first law of motion is not true. Whether it is true or not is another matter; but as the attempts in question take this law for granted, they are obviously fallacious, confounding, in fact, an indefinitely small quantity with no quantity at all.

The other case mentioned is somewhat different. I can best describe it by a brief quotation from Maxwell: "The dynamical theory of a conservative material

system shews us that *in general* the present configuration and motion determine the whole course of the system, exceptions to this rule occurring only at the instants when the system passes through certain isolated and singular phases, at which a strictly infinitesimal force may determine the course of the system to any one of a finite number of equally possible paths, as the pointsman at a railway junction directs the train to one set of rails or another."[1] It is assumed that such mechanically indeterminate phases predominate throughout the organic world, and that to life or mind belongs the power of determining along which of two or more mechanically indifferent paths the elements of an organised system shall go. Brain-cells in particular are supposed to be systems of this kind. The question is not now, whether such guidance exists, but whether there is any reality, corresponding to dynamical equations with singular solutions, to which on this assumption such guidance is confined. The question, in other words, is whether the mechanical theory leaves any such loophole for extra-physical intervention. The answer, it seems, must be *No.* For that theory does not admit material systems in isolation, but insists on treating the whole material universe as one; it is only in thought that we can abstract one part from the rest. Even granting that data may then be wanting to furnish an unambiguous forecast, all such indetermination, it is held, would disappear as soon as other systems, or the rest of the universe, were taken into account.

[1] *Revelations of Paradoxical Philosophy*, *Nature*, vol. xix, p. 141. *Collected Papers*, vol. ii, p. 750.

Many other endeavours, more or less subtle and ingenious, have been made to find a place for voluntary and purposive action *within* the mechanical scheme, taken thus in its entirety. Mathematicians are the proper judges of the validity of such attempts, and apparently they reject them all. If only matter in motion can set matter in motion it is plain that mind, which *ex hypothesi* is not matter in motion, cannot do it. If, taking the universe into account, there are no unbalanced forces, then whenever a given mass undergoes a certain acceleration, *i.e.* is subject to an impressed force, another mass simultaneously undergoes an equal and opposite acceleration, *i.e.* is likewise subject to an impressed force. Calling the one the action, and the other the reaction, it then becomes absurd to suppose the reaction to be a mass-acceleration, and yet to contend that the action is a volition, unless such volition is but an impotent 'aspect' of the opposite mass-acceleration, which is the very supposition to be avoided. It would seem, therefore, that there is no middle course left to us. Either the universe is mechanical or it is teleological; it is not likely to be a mixture of the two. But to justify naturalism, the mechanical theory must explain everything: what it does not explain must be unreal and illusory. Naturalism, we have seen, has for its base of operations the primacy of the physical series; and, setting out from this position, it undertakes "the gradual banishment from all regions of human thought of what we call spirit and spontaneity." If it cannot succeed altogether, it must fail altogether. In the next lecture I propose to gather up the results of our inquiry on this point

and to offer some final reflections which they suggest. We shall then be prepared in later lectures to contest the assumption that for knowledge the primacy of the psychical standpoint is, as Huxley has declared it, "utterly barren and leading to nothing but obscurity and confusion of ideas." It will then be not so much with naturalism as with agnosticism that we shall have to reckon.

LECTURE XIII

SUMMARY AND REFLEXIONS

Abstract Dynamics does not furnish us with a Natural Philosophy, but with a descriptive instrument of uncertain range. Facts cannot be maimed to fit it, but it must be modified to suit them.

Even what can be mechanically described need not be, and experience may convince us that it is not, mechanically produced.

It is impossible to divest living beings of "internal determinations and grounds of determination." Descartes' distinction of causa formalis *and* causa eminens. *Physics recognises only the former, and resolves that into an equation. The latter, being excluded from its premisses, is supposed to be excluded from existence. On this fallacy the doctrine of conscious automatism is built up. Inertia not a fact but an ideal.*

Conservation of energy essentially a law of exchanges. That the whole energy of the universe is constant in amount and 'phenomenal' in character, not proven.

The theoretical physicist having eliminated causation, must not dogmatise about it. The crux *of irreversibility suggests that the world is not a mere mechanism. The physicist only describes the* utterances *of real things and the after-course of these utterances, so far as left alone. He is obliged to admit interference, but prefers a maximum breach of continuity far off rather than orderly direction now.*

Such direction impossible if all the beings in the objective universe are inert. No warrant for preferring dead things rather than living as the type of such beings; and if we want to understand the world and not merely to calculate it, we must start from some other type.

The mathematical bias the source of naturalism. It can only be corrected by observing how it has arisen. Mechanism by itself is chaotic and meaningless. With mind first come law and order. And mind we have seen implied as a vis directrix, *at least, in evolution, in natural selection, in psychophysics.*

We have accepted the decision of the upholders of the mechanical theory of the world that in that theory no place is left for consciousness to intervene as a determinant of material changes. We have seen — as a moment's reflexion suffices to show — that such suppositions are incompatible with the strict premisses on which that theory rests. If the material world is in itself a complete whole; if all its changes are but transferences of a common stock of energy constant in amount from one to another of a common stock of vehicles or receptacles, also constant; if such transferences are determined by nothing but relations of time and space and number; and if time and space are continuous and uniform throughout, — there is no room for ambiguity, no opportunity for meddling, and no possibility of control. But we have not accepted those premisses, and are therefore free to urge this result as an argument against naturalism, which *has* accepted them.

The mechanical theory of the world we have traced to a natural prejudice supposed to be the special infirmity of metaphysicians — that of ascribing objective existence to abstractions. Now, if ever there were abstractions, the time and space and mass of abstract dynamics are such. In the earlier lectures I endeavoured to follow the progress of the mechanical theory, as one after another of the qualitative diversities we perceive, were brought within the range of quantitative description, till what at the outset was avowedly but an aspect of sensible bodies became at last the entire reality of their ultimate constituents. How much more is this earth than a mass-point with a certain numerical value, moving in

accordance with dynamical equations among the other mass-points of the solar system? Yet there are people who imagine that when they have resolved the whole earth and all that happens on it into motions of such mass-points, traceable by pure mathematical analysis, they have attained to a philosophy of nature. The much decried thing *per se* thus turns up where we should least have expected to find it: 'what actually goes on behind what we see and feel' is, we are to believe, simply the motions of one ultimate fluid characterised throughout by negative attributes. Others, whose faith is not equal to this resolution of the phenomenal world into "non-matter in motion," have seen what we take to be the truth, — viz., that mechanism is not the one reality behind the veil of phenomena. This, which is the mechanical theory, they repudiate as we have done. Abstract dynamics is for them not a natural philosophy, but a hypothetical descriptive scheme, originally devised and continually amended so as to summarise, in the simplest and most comprehensive form, the movements that occur in nature. If there are facts that do not conform to it, or only conform approximately, so much the worse for it; it must go or be modified; the facts will stand. If, again, there are facts beyond its purview, that is not a reason for chopping experience in two, but a plain proof that experience transcends its range, and that the world is not fundamentally mechanical. To suppose that the rigorous determinism deducible from the abstract scheme — for the simple reason that it has been put into its fundamental premisses — *must* apply also to the real world it

has been devised to describe, is just as absurd as — to take a very trivial illustration — it would be to say that a man must fit his coat, and not that the coat must fit the man. There may be nothing in the world answering to the conception of inert mass; it may be as pure a limiting non-entity as the *prima materia* of philosophical speculation. And as to the conservation of the energy analytically distinguished from it, this again is but a regulative principle, an idea, not a fact. It is impossible to deprive a body of all its energy and so measure its amount; impossible, again, to say what latent forms of energy there may be, to which our senses furnish no clue, direct or indirect. On both these points, the assumed reality of mechanical determinism and the true character of the principle of energy-conservation, it will be well to enlarge a little. To begin with the first: —

The physical investigator is never in the happy position of the mathematical theorist, face to face with the ultimate elements of mass in pure space and time, and, like a demiurge completely master of all his data, able to assign to each element its share of energy and its position. The mathematical theorist employs direct methods, as when, to take the simplest case, two forces being given, he ascertains their resultant; the physicist is largely shut up to inverse methods which leave room for numerous solutions, as when, a force being given, its possible components have to be ascertained. Hence in his endeavours to describe physical phenomena in purely mechanical terms, he is driven to imagine various mechanical devices to simulate them, and has to trust that

crucial phenomena will gradually eliminate such of these devices as are halt and lame. And when we reflect that in mass, space, and time, the physical speculator has at his disposal a sixfold continuum, we begin to realise that there need be no end to hypothetical mechanisms. Leibniz, for example, did not hesitate to affirm that in a living body every smallest part is a machine, though such body be divided *ad infinitum*.[1] Our modern physicists, however, require all this apparatus to describe even bodies that are not living. But let us imagine, as Leibniz did, that we could magnify an organic cell or nucleus till we could examine it in detail, as we might a factory full of machines; and let us suppose somewhere within it a being that really did move spontaneously, changing its direction free from any impressed force. What would the theoretical physicist say to this? Without a moment's hesitation he would quote his laws of motion and postulate a second body (or mass-system) with an equal and opposite acceleration; though no evidence — or, as he would say, no other evidence — of such a body, were forthcoming. Just so the Pythagoreans with their preconception of numerical fitness postulated an ἀντίχθων or Invisible Earth to complete the decade of heavenly spheres, thereby, as Aristotle said, "forcing phenomena into accordance with certain reasonings and notions of their own."[2] This comparison, though it may seem outrageous, is just in the one respect that the law of inertia, when its scope is made coextensive with that

[1] *Monadologie*, § 64.

[2] Cf. note by W. H. Thompson in his edition of Archer Butler's *Lectures on Ancient Philosophy*, vol. i, p. 341.

of the entire world, animate and inanimate, is assuredly a preconceived postulate and not an ascertained fact. What *is* ascertained fact is merely that mass-aggregates, such as planets, billiard-balls, and other mechanical paradigms, conform to this law as far as they can be observed. That the bodies of Saint Paul, Christopher Columbus or John Howard conformed to it is assuredly not an ascertained fact. Let us, however, return to our physical theorist in the magnified protoplasmic cell, and let us assume that the movements of the spontaneous being we have supposed him to find there manifest all that diversity and discontinuity which commonly characterise living things; further, that these movements concur with certain states of the machines among which the being moves, while these in turn seem affected by its presence. What now would the physicist say? Certainly not, if he abides by his principles: "Here is a controlling and initiating mind"; nor even: "Here is a conscious automaton." Rather he would say: "Self-determined motion is for me a sheer impossibility. This complexity of motion points to an equally complex mechanism. Action at a distance, again, my principles do not allow. Obviously, therefore, there is some ethereal medium here; so much the relations of this being's movements to those of the machines compel me to believe. Let us imagine that erratic being magnified in its turn as the cell was before, and we may hope to invent some concealed machinery which might account for its unpredictable behaviour."

With such powers of indefinite magnification and indefinite multiplication of hypothetical mechanism, it is

possible, I say, that the most complex vital phenomena the physiologist can ever discover could be mechanically described. But it would not follow, even then, that they and all beside them really were mechanical. To establish that, every infinitesimal mass concerned must be ascertained and ear-marked, the path of each one must be traced, and there must be no hidden machinery, no resort to statistical averages, no ignoration of coördinates, or the like. If the physicist, starting thus from the very beginning, could directly shew that the result accorded with his descriptive scheme, the verification would be complete; the hypothesis would have become fact and the abstractness be at an end. Thereafter the idea of psychical guidance would not conflict with a theory, it would be refuted by facts. Meanwhile, however, nothing of this kind has been proved; and, further, it is obvious nothing of this kind ever can be proved. But, on the other hand, there is still no prospect of direct physical evidence to shew where psychical interference actually does occur, and where in consequence the molecular movements in a living body cease to be entirely determined by mechanical relations. The question on this plane is an open one, albeit the difficulties besetting the mechanical theory even of organic processes seem steadily increasing.

At this point Kant's declaration, "Hylozoism would be the death of all natural philosophy," recurs to us.[1] "On the law of inertia and its conservation," we have found him saying, "rests entirely all possibility of a proper science of nature," — with which name he dignifies this

[1] Cf. above, Lecture VI, p. 177.

abstract descriptive scheme, assumed by him to be *a priori*. Again I say we must allow that this is so, and again I would ask: And what then? Are we to conclude that all experience would lapse into unintelligible confusion unless living bodies were "absolutely devoid of internal determinations and grounds of determination?"[1] But our own activity — which Naturalism cannot seriously gainsay — is only possible, and the chiefest part of our experience is only intelligible, on the supposition that living bodies are not thus devoid of self-determination. This, I would insist, is not a fact to prove or to explain, but one to disprove and explain away for those who can. What then if we *deny* that a living man or even a living mouse, is merely like the solar system for the astronomer, a material aggregate devoid of internal determination? Two or three things follow. For one, there is an end of the mechanical theory as conceived by Laplace. "If we seek the cause of any change of matter whatever in life, we shall have," says Kant, "to seek it at once in another substance, distinct from matter, although bound up with it." Laplace's famed intelligence then will have, as I have already said,[2] to add to his world-formula, at the moment he obtains it, a complete foreknowledge of all those changes of matter which mind will induce, assuming, as we reasonably may, that the formula itself will take account of all changes so produced up to that moment. Still, when we remember that even the chemical atom, which might have some claim to rank as one of

[1] Cf. Kant, *Metaphysische Anfangsgründe der Naturwissenschaft*, Hartenstein's edition, Sämmtliche Werke, vol. iv, p. 439.

[2] Cf. Lecture VI, p. 176.

Laplace's "real beings" has to be resolved into a complex of prime atoms and these into mass-points before the mechanical theory can have full sway, nay, that even the ether must submit to analysis, it is obvious that the feats of the Laplacean intelligence cease altogether to be conceivable. In short, we may take it as definitely conceded by the physicists themselves that descriptive hypothesis takes the place of real theory.

Another consequence of admitting that mind can control matter, will be that somewhere within the living organism physical events will happen that have other than physical conditions. Whether "natural science proper" will ever penetrate far enough into this *arcanum arcanorum* to find itself face to face with such a 'miracle' remains to be seen. But up to those uncertain limits it will still have a vast range and unfettered scope. And besides, if it renounces its old pretensions of being a natural philosophy, abjures the categories of substance and cause, and only claims to describe events, it might still be possible to express abstractly in mechanical terms effects that in fact were not mechanical. Such a procedure I endeavoured just now to picture. There is an old scholastic distinction much used by Descartes that may serve to put this in a clearer light. When a cause was related to its effect as a seal, say, to its impress, it was a *causa formalis;* when, as the engraver to the seal, it was a *causa eminens.* Thus if one body is set in motion by another the motion is produced *formaliter* in the Cartesian sense; but if a body were set in motion by mind such motion would be produced *eminenter.* To suppose that every motion is mechanically produced would then be much on

a par with supposing that all pictures are printed, and none drawn; seals always moulded, and never engraved by hand. The principle — *a priori* fallacy, as Mill with some reason calls it — that like can only be produced by like, so excluding eminent causes, lies, as we have seen, at the base of the whole doctrine of psychophysical parallelism. It is then but an easy step to the exclusion of cause altogether; especially so, when the processes concerned consist simply in the transference of motion from one mass to another. This step, as we have seen, abstract dynamics has at length taken. A force is no longer a cause — "whatever produces or tends to produce a change in a body's state of rest or motion"; it is merely the effect or event, dynamically described, as mass-acceleration. When, then, it is said that motion that is not transferred motion is mechanically inconceivable, this is but an analytical statement pure and simple. It amounts to saying that it is inconceivable that what is inert should yet be active, or, more generally, that you cannot get the combination *a b d* out of the elements *a*, *b*, and *c*. On the strength of such truisms to deny that there is anything active, to deny the existence of other elements than *a*, *b*, and *c*, to deny that matter is ever moved save by matter in motion, is palpably a most unwarranted assumption, the only statement logically permissible being that the descriptive apparatus called abstract mechanics cannot recognise such motion. Yet on such an assumption the whole doctrine of psychophysical parallelism is mainly built up; reject that, and there is no serious argument left.

But, coming now to the second point — the precise

import and range of the principle of the conservation of energy. If mind *can* initiate or control the movements of matter, in other words, if a living body is not inert (whether because 'another substance, distinct from matter,' is bound up with it, or for any other reason), shall we not have to set this principle of energy aside? This seems a formidable problem. But in the first place, let us recall a distinction we have already made. It is one thing to ascertain the mechanical equivalents of various forms of energy and to assert the absolute constancy of these equivalents as part of the general postulate that nature is uniform. It is another thing altogether to assume that the quantity of energy in the universe is finite; and that, being finite, it neither increases nor decreases according to some law, or for some sufficient reason. The attitude of physicists towards this question is very much the attitude of an imaginary economist, who, knowing nothing of the production or consumption of wealth, should suppose that there were no economic laws but those of exchange. But now, even in a science so imperfectly mathematical as economics, it is still possible to work out demand and supply curves, spite of the fact that the laws of production and consumption more or less complicate them. In the grander economics of nature the relations might be similar. What the physicist calls its working capacity or energy may or may not be constant; he cannot tell, for him it is an indefinite amount. He only knows that its rates of exchange or transformation are regular within the very narrow limits of his observation; and even within these limits, he is strictly confined to the average results of innumerable

individual transactions. If, spite of this ignorance, physicists assume that the total energy of the universe is constant, much as a Cheapside crossing-sweeper assumes the population of London to be, their only justification is its simplicity, and the sufficiency of the assumption for their purpose. But it is no more a necessity of thought than the assumption of the crossing-sweeper. And how often in the history of science have false and hasty assumptions been called axioms, only because they were simple and could not be proved?

Of course if we take 'the high priori road' of Mr. Spencer and Professor Tait, and affirm that the creation or destruction of energy is as inconceivable as the creation or destruction of substance, we are so far safe. On the inconsistency and futility of this recourse to metaphysics and the noumenal I have already dwelt. It is not with Mr. Spencer's Unknowable Force, that persists but cannot be measured, that we have to do, but with its knowable manifestations that do not persist but are transformed continually. All we have then is, first, the axiom that from nothing nothing comes, and secondly, the experimental determination of the quantitative equivalents of certain of those manifestations. From such data it is plainly impossible to prove that this *phenomenal* energy in the universe is fixed in amount. And this the physicists themselves are beginning to see more and more clearly, and frankly to admit. Those who insist that the quantity of this energy in the universe *must* be constant seem to me in the same position as one who should maintain that the quantity of water in a vast lake must be constant

merely because the surface was always level, though he could never reach its shores nor fathom its depth. We must remember too that this assumed constancy is only kept on its legs at all by counting in, first, the so-called *potential* energy, which is not actually energy at all nor mechanically of the same dimensions,—capacity for work and capacity for capacity for work not being on a par; by counting in, secondly, *dissipated* energy, which is capacity for work forever devoid of opportunity; and by allowing, finally, that in every material system there is an indeterminate amount of *latent* energy, of which nothing is known.

But whether the whole energy in the world be constant or not, still if mind is to initiate material movements, must it not itself be a form of energy and have its equivalent transformations into other forms like the rest? An objection of this kind[1] may be expected at this point, and it will appear unanswerable to those who accept the mechanical scheme as a complete and rounded whole. But this is just the conception we are primarily concerned to combat. Is there nothing beyond this everlasting transference of motion from one moving mass to another?

When I was a child my mind was much exercised, because I could never find the beginning of a piece of string; all the string I could get hold of had had the beginning cut off. I was in a fair way to conclude that string had no beginning, but that every piece was cut off another piece, in turn cut off another, and so on forever. But one day, passing a rope-walk, there to my

[1] Cf. above, Lecture XI, p. 23.

delight I saw string emerging from a bundle of tow that was not string at all. Now Naturalism seems to have taken up a position analogous to that into which I was lapsing, and unfortunately there is no such easy way of escape. Naturalism reduces phenomena ultimately to motions determined by other motions, and so without end. It sees in the world but a variegated tapestry of illimitable extent, the warp and woof of which are motions. Keeping to the facts discernible from its standpoint, it fails either by observation or experiment to discover new threads entering the fabric; then, turning to ideas, it devises a descriptive scheme, according to which such entry is inconceivable. Yet its 'day of Damascus,' to use a phrase of Du Bois-Reymond, might any time have dawned upon it, as it did half dawn upon him. The simple reflexion that the *facts* before it could never establish a negative; and again that ideas or theory must conform to facts, not facts to theory, — such reflexions, I say, would have sufficed to shew that the determination of motion otherwise than by antecedent motion is in itself neither impossible nor absurd. Then, with the scales of prejudice thus far cleared from its eyes, the one plain fact of voluntary activity might have been welcomed as a truth instead of being scouted as an illusion.

At all events these two things seem certain — that mind does somehow direct the movements of matter, and that the constancy of the phenomenal energy of the universe is neither a fact established by induction nor a necessity of thought. The effects of psychical determinations of the motions of inert matter, if matter

be indeed inert, would, presumably, persist as truly as the effects upon it of antecedent motions persist. Once within the fabric which the physicist seeks to describe, they would be indistinguishable from other effects. Nay, as we have seen, they never could be distinguishable so long as physical description is confined to the use of an abstract scheme, and cannot, even in the working of a crowbar — to recall Thompson and Tait's instance — come to close quarters with all the causes concerned; but must acknowledge even that apparently simple question to be in its completeness 'an infinitely transcendent problem.' If the exponents of modern dynamics were content to recognise causes and to describe force as Newton did, then mental direction would be a force. If, however, the conception of cause is to be eliminated, that description by equations may be possible, we have no right to object; nor indeed any ground to complain. Only the physicist who, in order to be mathematical, dispenses with causes must not dogmatise about them. But of course no one supposes that causes are absent from physical events: causes are only ignored. They are ignored, first, because mass-motions being alone considered, quantitative relations suffice; and again because, such motions being both reciprocal and reversible, we can not only say the cause equals the effect but it becomes indifferent which we call cause and which effect. But when qualitative processes or processes of development are in question this is no longer possible. The internal nature, both of agent and patient, has to be taken into account and the time-order is essential. But inert mass has no qualities; and the conservation of

energy, regarded as a mechanical principle,[1] is simply the maxim, *Causa æquat effectum*, applied where only mass-motions as quantities are concerned and where the masses are assumed to be indestructible. This is substantially the result to which the expositions of Meyer and Joule reduce it, as in the earlier lectures we have already seen. In this form, however, it is but a logical principle. It affords no basis for assertions about the total capacity for work in the universe, nor for assertions about its possible sources.

Such source or sources there must surely be; and if we are to call them too 'energy' the word must carry a different signification from that which the physicist gives to $mv^2/2$. As there are no known processes by which dissipated energy can be returned to its source as available energy, may it not be that available energy is derived from a latent source to which it cannot be physically returned? The reversibility, in short, which a purely mechanical scheme presupposes and which yet the actual world does not permit, at once suggests to the open-minded that there is more in heaven and earth than is dreamt of by the naturalistic philosophy. But, of course, in whatever way we suppose changes of motion not determined by precedent motion, such supposition, it will be said, is tantamount to regarding the world as not simply a mechanism. Certainly, I admit this, and urge that the absence of reversibility equally implies it. The solar system would work just as well,

[1] The upholders of the new science of Energetics contend, of course, for a wider interpretation. But they have still to make their way. Cf. Lecture VI.

revolving from east to west, as it does revolving from west to east. Reverse the spring, and a watch would go just as well backwards. So generally in *theory;* as much indeed is implied in treating causes and effects as mere sides of an equation, in which all the signs can be changed. Time-order does not enter. So in theory, I say, but never so in *fact*. How to get rid of this discrepancy is still, I understand, an anxious problem for the mathematical physicist. Meanwhile are we not justified in suspecting that there is something more in physical causation than can find its way into dynamical equations? The absurdity of a reversal of organic processes is evident, the tree shrinking back into the seed, life beginning in a corpse and ending with a birth, everything genealogical running backward, natural selection and survival of the fittest not excepted. And what of the psychical series as a collateral product of the physical in such a case? This question brings us to the point. Facing the future we are efficient, facing the past we are helpless. What is done cannot be undone; over what is still to do we can give or withhold our *fiat*. Capacity for work — a mere δύναμις — then passes into veritable ἐνέργεια. But what is done makes a new doing possible, so

> That men may rise on stepping-stones
> Of their dead selves to higher things.

Looking at the world in this wise, may it not be that the physicist deals only with the *utterances* of what we may call the *insides* of things; and dealing with them only and taking them for all, is thus led to deny inside existence

altogether? We have seen abundantly how abstract his whole procedure is, how reality slips through his fingers as he resolves atoms into ethereal vortices, and ether into an universal plenum as devoid of internal difference as empty space itself. And then, having got this far and all question of an 'inside' being utterly banished, he is forced at length — in open violation of his guiding principle, continuity — to look to something extra-physical or metaphysical to endow his medium with motion. Is it less scientific to regard such interferences as continuous and orderly? Mind must agitate and direct the mass, it seems; why then, unless to simplify mechanical description, has the physicist, to quote Professor Tait, "driven the operation of that mystery called life or will out of the objective universe?"[1] And having done so, by what logic does he contrive to call such life or will a 'collateral product!' Surely, if Naturalism did not despise all metaphysics but its own, it might have learnt from philosophy a better way. Kant's conception of man as at once phenomenon and noumenon is better than this. Perhaps Lotze puts the same idea more clearly, and in a way more germane to these remarks, in a passage of his *Microcosmus*, which has often impressed me, concluding with the words: "The universal course of things may at every moment have innumerable beginnings whose origin lies outside of it, but can have none not necessarily continued within it. Where such beginnings are to be found we cannot beforehand say with certainty; but if experience convinces us that every event of external Nature is at the

[1] *The Unseen Universe*, p. 183.

same time an effect having its cause in preceding facts, it still remains possible that the cycle of inner mental life does not consist throughout of a rigid mechanism working necessarily, but that along with unlimited freedom of will it also possesses a limited power of unconditional commencement."[1] It was in pursuance of the same thought that I just now suggested that possibly the physicist's so-called actual energy might spring from an efficiency of a higher order as well as sink to the level where, as 'entropy,' it is available energy no more.

But on the platform of our present argument — that of the primacy of matter and its laws — these are mere surmises. Suppose we assume then that mind only directs energy, and is not a source of it. Its action would thus be comparable to that of a force acting always at right angles to the direction of the moving body, thus altering its course without altering its speed. Such guidance entails theoretically no expenditure of energy and so does not conflict with the law of energy-conservation; but it conflicts with the conservation of momentum, and is therefore contrary to the laws of motion, as we have already seen. It is, in fact, the Cartesian *influxus physicus* which Leibniz exposed. Yet it remains the conception most in favour with those who see the absurdity of conscious automatism. But again I say even this conception is incompatible with the thoroughgoing mechanical theory of things. If the facts of life and mind discernible in the external world lead up to such a view, then those facts must lead us on

[1] *Microcosmus*, translation, vol. i, p. 261.

also to deny the Cartesian dualism. The contradictions of psychophysical parallelism amount so far to a proof that mind and matter are not utterly disparate and distinct. For guidance is impossible if all the beings concerned in the objective universe are inert masses. To this conception then we are brought back once more. Is inert, dead matter everywhere; is it anywhere? Everywhere, Naturalism tries to believe. Nowhere, the idealist maintains. But if it is not everywhere, then either there must be two worlds, one world of inert masses, and another of living things, or a single world in which these somehow interact. In the former case we belong to the second world, and can neither affect, nor be affected by the first; can have neither knowledge of it nor interest in it. In the latter case, where living things and dead matter belong to the same world, then, if the physicist could completely solve the problems he sets himself, he would find some or all of his laws of motion sometimes set aside. Psychophysics would then become a real science, unless indeed the actions of living things — described perhaps as the movements of self-directing masses, perhaps as the movements of self-directing 'monads' that had no mass — manifested no kind of order or uniformity. Again, on the view to which Naturalism clings, in a complete world of dead matter, there would be nothing but a mechanism, but there would be no machines: to talk of collateral products of an epiphenomenal order would be stark absurdity. But let us turn again to the actual external world, and even from the standpoint of natural science, what do we see? Surely the very first distinction that meets us is this very one

of living and dead things. Here I pick up a stone and call it dead: I toss it from my hand and can describe the path it will take. There I pick up a bird: I can toss that from my hand too, but cannot foretell its course through the air. From that stone, *just as it is*, the physicist derives his idea of inertia. But from the bird, just as it is, he declines to accept the idea of self-direction. Rather calling upon us to accept *his* ideal of mass-elements, he says, Magnify space and time indefinitely and the bird will turn out to be but a vast system of inert masses, devoid, like the stone, of self-direction and obeying only the laws of motion. How does he know this? Suppose we suggest the opposite procedure of diminishing space and time indefinitely till the stone and its motions become infinitesimal, how does he know that the whole sidereal system will not then turn out to be more like the bird than the stone, an organised whole manifesting life and self-direction? The one supposition seems just as reasonable as the other.

It must be candidly confessed that, however much we insist on the fact that mind can direct and control inert mass, we are quite unable to analyse the process. In our ignorance the simplest statement is the best, and I can think of none simpler than saying that inertia, always a hypothetical and abstract conception, perhaps never applicable to anything in the world of concrete things, is certainly not applicable to everything. We must remember that matter and inert mass are not identical, and that the physicist, though he attempts to describe all he knows of matter in terms of mass and motion, is careful to say at the outset that "we do not

know and are probably incapable of discovering what matter *is*."[1] Unfortunately, before he reaches the end of his story, this preliminary *caveat* is too often forgotten: Professor Tait, for example, who makes this statement, has hardly begun his exposition before he tells us that "matter is simply passive,"[2] thus identifying matter with mass. But 'a mass' means merely a concrete number, *i.e.* the term stands for a specific quantity not for a concrete thing; mass is a mathematical conception devised solely to facilitate calculation, and was never meant to aid rational insight or understanding.

But calculation will never content us; rational insight, spiritual light, is what we want. Imagine a man reflecting upon the actual world as it lies as a whole before him, bent on seizing its meaning, seeking to frame a clear and distinct picture, a *Welt-anschauung*, a world-intuition, as the Germans expressively say, not merely a world-formula. The starry firmament above him, the moral law within his breast, fill him with awe, the meanest flower that blows gives him thoughts that often lie too deep for tears. Imagine such a man saying: — "Here in the impact of two stones I discern the secret of the whole! Just as far as I can resolve all into this, just so far can I say that I see and understand. Here is the promise and potency of every form and variety of life! To this an ultimate analysis brings us down, and on this a rational synthesis must build up." Whereunto shall we liken such a man, and with what can we compare him? Surely, having eyes he sees

[1] Tait, *Properties of Matter*, p. 14. Cf. Lecture II above.

[2] *o.c.*, p. 5.

not, having ears he hears not, neither can he understand. But there is no such man, you say; I know well that there is not. But there is such a system of thought, of which this is the logical outcome, and Naturalism is its name. It is a novel Frankenstein that the man of science has conjured up, and now pretending to have made *him*, it pronounces him to be impotent, and the Nature it presents, to be the only One and All that he can ever know. How is this spectre to be dispelled? Most effectively, surely, by considering how it has arisen. To this end, again, it seems obvious that we must go back to the concrete world as a whole. And so doing, we may first of all lay it down as a canon, that if we are to understand the world as a whole we must take it as a whole. But such a canon Naturalism has defied again and again. To begin, there is this dualism of mind and matter, and its consequence, the fruitless endeavour to reunite what has never been experienced asunder. But that problem, closely as it is mixed up with the one immediately before us, we have nevertheless agreed to defer. Meanwhile, taking Naturalism on its own ground, and assuming the distinctness and the primacy of the external world: here again our canon is set aside, when qualities are all resolved into quantity, and all relations but the mathematical discarded. Descartes here, as before, is the first and chief offender. His grand conception of science as *Mathesis Universalis* has never ceased to fascinate — and to mislead. Some of the consequences of this error it has been our business to trace; and in that stupendous house of cards, Mr. Spencer's Synthetic Philosophy, we have found an

impressive exhibition of them. As to the fascination of such a conception, the reason for that is not far to seek. It is simply the intuitive clearness of mathematical form and the boundless possibilities of geometrical construction. Here, and here only, the human intellect seems to be in possession of archetypal ideas, and to approximate to the creative intuition attributed to the Deity. The metaphysical obscurities of substance and cause, of being and becoming, do not intrude into this region. A spatial plenum or primordial ether seems to afford us the unity and permanence of being without its mystery; in motion we seem to have change without its contradictions; and differential equations seem to yield us necessary interdependence without any causal nexus. But, alas, for the vanity of human dreams! though everything that is has quantity, has spatial and temporal relations, there is nothing that entirely consists of these. When a given whole resolves into an aggregate of parts, these again have quantity, have spatial and temporal relations, but again they are more than these. Proceed we never so far, the same remains true; only in the limit to which thought will carry us, but to which experience gives us no warrant to go, we reach at length an empty world, not a world of *things* having mathematical relations, not an actual world at all, but a world of conceptual possibilities of mathematical relations, where the principle of least resistance is the supreme principle of change; where masses can be moved but need not be; where energy can be transferred but need not be; where mass is invariably passive, and energy invariably directionless. Such conceptions may

furnish an admirable descriptive scheme of "the motions that occur in nature," but they explain nothing. In place of explaining they regress *ad indefinitum*. As they can give no account of any distribution of mass and energy, save by reference to a previous distribution, they have no title to deny interference, but only to admit that they are inadequate to deal with it. So long as things are left to themselves, mechanical principles can tell us what will happen at the next instant, what will tend to happen indefinitely, provided always the mechanism is left to itself. On this large assumption they can predict, but on this only. In a world so framed sentient agents would have means for their ends; for them such a world would be one of law and order. In itself it would be a chaos abated only by quantitative determination. How absurd, then, to make all the life and action of such sentients but the epiphenomenal shadows of vortex-motions in such a chaos! Chaos I call it, for the world described strictly in mechanical terms can have not a vestige of meaning. There is exactness, there is precision, but there is no true unity and no sense.

But let us go back once more to the actual world as it confronts us while we live and struggle in it: avoiding abstract formulation and seeking a concrete acquaintance, what do we find? Certainly nothing that suggests its ultimate resolution into homogeneous mass-points mechanically interconnected. Keeping strictly to the concrete and historical, everywhere we find variety, diversity, whether we carry our gaze into the depths of space or back in time through the geologic eras of the remote past, whether we compare the trees of a

forest or the leaves on a tree, the pebbles at our feet or the mountain peaks that pierce the sky. We content ourselves with merely counting our cattle or sheep, only when we have no individual acquaintance with them; but even on a cursory glance differences appear, and the more intimate our knowledge the more individuality obtrudes itself. Even where the minuteness of objects hides their individual differences from us, we frequently have evidence that such differences are there. Thus the spores of half a dozen ferns sprinkled on the hand look all alike; but sow them, and both specific characters and individual traits will presently shew themselves. In short, so surely as we can find means to perceive the particular thing or particular event, so surely individual characteristics, *hœcceities* as the schoolmen said, emerge to view. I see no reason to doubt this would hold true even of the five hundred billion light-waves said to reach the eye in a second, if only we could magnify time sufficiently to note and compare them one by one. Just in proportion as things elude our perceptive power or fail to interest us, do proper names give place to common names, and common names to stuffs; biography becomes history, history chronology, and all the teeming life of things but cosmic process. Experience, then, justifies the doctrine of Leibniz: No two things are entirely alike, and no two things are entirely different. An adequate and intuitive knowledge of the world would embrace both these aspects, and so doing would present the world in its true and concrete unity. Scientific knowledge, however, is neither intuitive nor adequate, but always more or less general and sym-

bolic; its general concepts and symbols representing the likenesses among individuals and the likenesses among these likenesses, so tending indeed towards an abstract and spurious unity, but farther and farther away from the living whole. It begins by leaving half the truth aside, viz., that no two things are entirely alike; and natural science further leaves half the facts aside, or rather an essential part of every fact, in ignoring mind and its manifold implications. Setting out from such a dualism and advancing in this abstract fashion, can we wonder that we end in a blank mechanical scheme diametrically opposed to everything teleological?

The surest way to exhibit the philosophical deficiency of such a scheme is to proceed to reconstruct the concrete world by starting from it. For this Balaam's mission Mr. Spencer has been destined, and admirably he has done his work. So long as Naturalism continues in vogue, so long, I cannot help thinking, Mr. Spencer's great enterprise is its best refutation; while, on the other hand, had that enterprise succeeded nothing could have established Naturalism more convincingly. Hence it seemed to me imperative to examine the Synthetic Philosophy in some detail, and to shew clearly the looseness of its ideas and its grave defects of method. I confess the task was not difficult, and certainly was not congenial; but it had to be done. We saw clearly, I trust, that Mr. Spencer's entire performance was a sort of philosophical sleight of hand. Sweep the board, he says, leave me only the universe in a diffused, imperceptible state, and setting out from the persistence of energy, I will shew you how celestial bodies, organ-

isms, and societies, must arise.[1] We saw, clearly, I trust, that with such data Mr. Spencer could not get beyond what he terms the primary distribution of matter and motion, the return of his diffused universe in the shortest and easiest ways back to equilibrium; that, on the other hand, the so-called secondary distributions which are to be the source of celestial bodies, organisms, and societies, one and all imply guidance, direction, and selection — conceptions that inert mass and directionless energy can never by any possibility yield.

Passing on to biological evolution over a gap of two octavo volumes, still missing from Mr. Spencer's work, we came to biological evolution as specially expounded by Lamarck, Darwin, and their successors. Natural selection, taken alone, as Wallace urged and Darwin himself allowed, is only a negative and destructive principle; in 'struggle for existence and survival of the fittest,' on the other hand, we found that striving not merely to live, but to live well, which first gives natural selection its '*point d'appui*.' Here we have a teleological factor, and one suggesting not so much a nondescript force called vital, as a psychical something endowed with feeling and will. Feeling and will answer to the psychological principle of self-conservation; when to these we add knowledge, we reach a principle to which I have ventured to give the name of subjective selection, the counterpart and supplement of natural selection and the source of a different order of species; to wit, species of environments.

[1] Cf. Descartes' invitation to the readers of his *Le Monde*, á sortir de ce monde, pour en venir voir un autre tout nouveau qu'il fera naître en *sa* présence dans des espaces imaginaires.

But in the way of all this stood the theory of psychophysical parallelism which has just occupied us, and the contradictions of which, if it be taken for anything more than a methodological convention, I have endeavoured to set forth. Those contradictions compel us to suspect the thorough-going dualism, which renders the interaction of mind and matter inconceivable, and we have seen that, from Descartes' day to our own, it has never been consistently maintained. Invariable concomitance means causal connexion somewhere and a fundamental unity of substance at bottom. Naturalism is driven to assign the causality to matter and to treat mental 'epiphenomena' as its collateral products. We have seen many reasons discrediting this position, but it still remains to be examined *ab initio*. In the endeavour to defend the priority of mind, and to reduce *matter* to the epiphenomenal, or phenomenal as we may be content to say, we shall break with Naturalism once and for all. So far our part has been merely that of critics of its constructions. Hereafter its ally, Agnosticism, will meet us as the critic of our own.

PART IV

REFUTATION OF DUALISM

REFUTATION OF DUALISM

LECTURE XIV

GENERAL CONCEPTION OF EXPERIENCE

The discussion of Psychophysical Parallelism has led up to the formal side of our subject: we now ask, What is natural knowledge and what does it imply?

Naturalism assumes a dualism of phenomena and epiphenomena, the former having the primacy. But the 'real world' from which it starts is epiphenomenal. How then does it get to its *'real world' of matter in motion, and, having got there, how does it get back?*

The perplexities of dualism have brought into favour an agnostic monism or 'revised materialism.' If we are to transcend dualism and this monism, it will be by making knowledge, or rather experience itself, an object of reflexion. Neglect of this question by natural science, psychology and the pre-Kantian metaphysics.

What we find is not a dualism of mind and matter, but a duality of subject and object in the unity of experience.

Experience does not begin with a disconnected 'manifold.'

Sensations not 'subjective modifications' nor devoid of all 'form.'

Relation of subject and object: is it causal? Ambiguity of terms. 'Objective' used from two standpoints. Various attempts to treat this relation as causal noticed.

THE doctrine of conscious automatism, popularised in this country by the late Professor Huxley, is the crowning tenet of Naturalism, the logical outcome of that theory, for which Descartes prepared the way, the

theory, that is to say, which regards the material world as a self-contained whole, primary, fundamental, and independent of mind. Minds, then, come to be looked upon as secondary and episodic; mere collateral products, that arise as often as matter falls into the appropriate organic condition; *psychoses*, that are powerless to react upon their concomitant *neuroses*. The confusions and contradictions involved in this assertion of the impotence of mind to control matter we have already discussed at length. The assumed primacy and independence of the automaton still remained to be considered. But I propose now to merge this in the broader question and to examine generally the assumption of naturalism that physical phenomena are our primary facts and facts independent of mind. To do this will entail some change in our method of procedure.

At the outset of this course (in the second lecture), it was remarked that our knowledge of nature, as unified and systematised in the sciences, may be examined from two sides: either *formally* as knowledge, in respect of its postulates, categories, and the like; or — taking these for granted, as science itself does — this knowledge may be examined in respect of the *real* principles to which its supposed unity and completeness are ascribed.[1] We began with this latter side and have dealt in turn with the mechanical theory, the theory of evolution, and the theory of psychophysical parallelism. And now at length our discussion of the last of these real principles brings us round to the formal side and leads us to ask: What in itself is natural knowledge, and what does it

[1] Lecture II, p. 40.

imply? For this is the problem really involved, whether we challenge the particular doctrine that man is primarily an automaton and his consciousness but an epiphenomenal *aura* that accompanies its working, or challenge, as I now propose, the more general doctrine, of which this is but the logical consequence. According to that doctrine, if we are to exhibit the sum of things from the beginning and connect each to each completely, we must start from matter and motion. To this, Mr. Spencer in effect has told us, "an ultimate analysis brings us down and on this a rational synthesis must build up." Of the same tenor are some words of Huxley which I have already quoted and will take leave to quote in part again. "'In itself," said Huxley, "it is of little moment whether we express the phenomena of matter in terms of spirit, or the phenomena of spirit in terms of matter. . . . But with a view to the progress of science, the materialistic terminology is in every way to be preferred. For it connects thought with the other phenomena of the universe, . . . whereas the alternative, or spiritualistic terminology, is utterly barren, and leads to nothing but obscurity and confusion of ideas."[1]

To be sure such deliverances are usually guarded by agnostic disclaimers of any knowledge as to what matter is, or what spirit is, and usually too by indignant repudiations of 'what is commonly understood by materialism.' Such materialism as that of Hobbes or of Holbach, for example, is certainly no part of the naturalism of to-day. So far from saying that mind is a mode of

[1] *Collected Essays*, vol. i, p. 164.

motion, it scouts such a notion as sheer absurdity. This breach with the old materialism, to which Agnosticism has led, is, we have allowed, a distinct advance. But after all, if Naturalism is to stop at this, what have we but the substitution of one materialism for another? What avails it to know that mind is not actually itself matter in motion, if we must believe that it is as much bound up with such motion as the shadows and the whirring of its wheels are bound up with the working of a machine? If Spirit is to be derived from Nature and not Nature from Spirit, if the materialistic terminology is the one means of rational synthesis and the spiritual leads only to confusion of ideas, what is the good of saying that both are symbolic? Something must be real, and the plain implication so far is that the materialistic terminology brings us nearest to that. This is the position that we have now to examine, and on account of which we must inquire into the character of natural knowledge.

For the common-sense man, and for all men in their ordinary life and intercourse, the world each one lives in is a world of things that are seen, felt, and handled, a world of sensible objects, some of which we seek and use, while others we neglect or destroy. This is the world of 'naïve realism,' as philosophers say. But from the standpoint of naturalism a world described in such terms is epiphenomenal. The 'real world' of science, the world of phenomena, on the other hand, is a world of mass-points transferring and transforming their motions, a world of quantitative diversity only. Now philosophers, as we all know, have long vexed themselves

with the endeavour to resolve the contradictions of unreflecting common sense, and to ascertain the veritable reality of this external world that we perceive. These ontological essays the agnostic derides as futile; for of reality as distinct from appearance, we can, he tells us, know nothing. He repudiates the materialistic *philosophy;* but holds, nevertheless, that we have done the most and the best that can be done when, accepting the materialistic *terminology*, we conceive the world in terms of matter and energy and their evolutions. But we have seen Naturalism, which undertakes this task, unable to complete it, and breaking down hopelessly when the complete facts of life and mind have to be taken into account. The naturalist cannot get back to himself as a living, thinking, acting being. In his desperation he begins to blaspheme — I mean he begins to talk metaphysics — much to the discomfort of his agnostic ally. So he comes to speak of monism, of mind and matter as comparable to the concave and convex aspects of one curve, and the like. Then the agnostic persuades him that what answers to the curve as distinct from the aspects — if indeed anything does — is unknown and unknowable. Meanwhile, his own standpoint is the outside of the curve, the material aspect. Its terminology compels him to affirm that interference or spontaneity is impossible there; and so the talk of conscious automatism, collateral products, and epiphenomena arises.

It is the absurdities of this doctrine that lead us to ask: How did the naturalist ever get across 'the ugly broad ditch,' over which he now finds no satisfactory return? To this comparatively simple epistemological

question some physicists, as we saw when discussing the mechanical theory, are now beginning to attend. They openly proclaim that mass-points and frictionless media are not phenomena, but merely descriptive hypotheses, that can never be verified as facts; hypotheses that would at once become obsolete, if simpler and more workable conceptions should be found. Yet Naturalism pays little heed to these admissions, and even less to the consequences that they entail. Moreover, even among physicists, to say nothing of other men of science, there are many who believe — like one I have had occasion to quote — that "what actually goes on behind what we can see or feel" is these very motions of mass-points so often described. But the objects of sight and touch at any rate are phenomena; while it is certain that no one has, or ever will, either see or feel the motions of mass-points or of vortices in a frictionless fluid. Naturalism, we remember, is too wise to claim for these supposed actualities behind what is perceptible any non-phenomenal, noumenal, or metaphysical reality. But if neither perceived nor perceptible, how then can they, with any propriety, be called phenomena? If they are not empirical data, how then has the physicist got at them? There seems to be but one answer to these questions, and happily in this all those physicists are agreed who have in any way troubled themselves with such epistemological inquiries. These supposed actualities, behind what can possibly be seen or felt, are not only not absolute realities, they are not even phenomenal realities; they are simply conceptions which the physicist has reached by idealising what he *can*

see and feel. It is plain that if this be the truth, then those prime and ultimate phenomena of Naturalism are, after all, but epiphenomena, thoughts not things, ideas existing solely for the minds of physicists, and serving only to interpret and connect what we see and feel, that is to say, other epiphenomena.

But what then is the force of the 'epi,' and what becomes of the primacy of the materialistic terminology? The tables seem to be completely turned. What we see and feel, the facts of perception, become the real phenomena. Instead of states of consciousness supervening upon certain motions of mass-points or some peculiar complex of ethereal vortices, these motions, etc., prove to be but ideal conceptions superimposed upon phenomena by the mind that seeks to connect them in respect of their quantitative relations. So far from connecting "*thought* with the *other* phenomena of the universe," as Huxley maintained, these conceptions are themselves simply thoughts connecting those 'other phenomena' together. But the connexion of such 'other phenomena' with thought and consciousness is a wholly distinct question and one that is left entirely aside.

This complete scission is in fact the πρῶτον ψεῦδος of all dualistic speculation; and Naturalism does not escape its consequences by hearkening to the voice of Agnosticism, and substituting phenomena and epiphenomena for the Cartesian substances, matter and mind. The first step of all is easy to take; indeed, it is taken unconsciously; for science sets out from the naïve dualism of common sense. But when it has gone farther and farther, till at length only a system of mass-points,

or a homogeneous plenum, in motion is left, then the problem consciously to retrace the many steps that have been taken proves hopeless. But it is said: "Phenomena empirically given were our starting-point; observation, experiment, deduction, and verification have accompanied every step; at what point then have the phenomena ceased to be phenomenal? As we have advanced we have but got nearer to the realities — phenomenal realities, of course, of which our sensory presentations are merely the symbols." Such is the language of Naturalism on the way out; so it becomes committed to a doctrine of phenomena *per se*, surely a more glaring absurdity than that of things *per se* can ever be. The true answer to this challenge, as I hope we shall see, is to say that the phenomena ceased to be phenomena at the very initial step when percept and percipient were sundered; that the further steps consisted not of percepts but of concepts, which as abstract may have — and indeed have actually — a certain relative validity, but no reality. The very ruthlessness with which its mathematical methods hurry it onward to such ultimate abstractions as Boscovich's centres of force or Kelvin's homogeneous plenum, yields perhaps the most convincing proof that after all we can *not* set out to synthesise rationally by the aid of a materialistic terminology. And when Naturalism, oblivious of all this and still regarding these mechanical abstractions as real, attempted to get back to mind, we might safely have said that it was foredoomed to the failure that has in fact overtaken it. There can be no "promise and potency of life" about mass-points changing in nothing but position and velocity, and *that* only

on external compulsion. There is no mystery about geometrical points and their movements; yet no sooner is there attached to them the notion of inertia and the name of matter, than we are asked to regard them as the unknown and hypothetical cause of states of our own consciousness. Not — we are again assured — that consciousness inheres in the inert mass or is identical with its movements, as the crass and dogmatic materialist of 'the bygone slime' foolishly imagined. No, states of consciousness pertain to a distinct but parallel aspect of these molecular motions, albeit a secondary and, for them, a contingent aspect. But where, we have asked, is the room for another aspect of such moving points? So long as matter was left with an untold residuum of active properties, as by materialists like Priestley, the annexation of thinking to matter was not so obviously absurd, for such matter might prove to be mind at bottom. But Agnosticism forbids such speculations; moreover, the increased exactness and precision of the materialistic terminology leave no room for them.

The result then to which we seem to be led is briefly this: The external world, as it is presented to us, and to which each and all of the naturalist's observations and experiments belong, is the true world of phenomena. This world cannot be severed from the minds that perceive it, and yet remain phenomenal; neither can it be completely and adequately explained or described in materialistic terminology. As the proximate phenomena presuppose perceiving minds, so do the so-called ultimate phenomena, involving pure space, uniform time, inert mass, and energy, presuppose intelligent minds that have

elaborated these conceptions, though they have never experienced such realities. The assumed primacy of the physical as against the psychical is due, first, to the fact that in his absorption and interest in the objective attitude the naturalist has forgotten *himself;* and next, to the fact that he has mistaken his abstract conceptions for presented realities. The notion of an epiphenomenon supervening on physical phenomena is in flagrant contradiction with the mechanical conception of a closed system of connected masses. From the standpoint of physics itself such a notion could never arise; while from the wider standpoint of psychology, to regard mind as the collateral product of its own external perceptions is simply to invert the facts. One might as well say that reflections produce their own mirror, or that houses evolve architects. We are led, in a word, to doubt that mind and matter can be dual realities, either phenomenal or ontal, and to doubt further that, if they could be, matter would be first. The dogmatic Naturalism of a former age asserted this priority of matter as a substance; the agnostic Naturalism of our own time asserts it of matter as a phenomenon. Of the two positions that of the thoroughgoing materialists is logically far the more consistent. It is besides a position from which Naturalism has been unwillingly driven, and hence the traditional bias still remains. Evidence of this bias we have seen in the frequent lapses from the unstable equilibrium of psychophysical parallelism towards this primacy of the materialistic standpoint. Further, as Naturalism has had to abandon that old stronghold of dogmatic materialism, and can now only talk of matter as 'the unknown

and hypothetical cause of states of consciousness,' it is loud to proclaim *en revanche* that spirit is also but 'an unknown and hypothetical cause, or condition of states of consciousness.' Even in these phrases of Huxley the materialistic bias shews itself: matter is honoured as *the* cause, spirit is referred to only as *a* cause *or condition*, and then both are grouped together as 'imaginary' substrata of groups of *natural* phenomena. But this Agnosticism, which cannot be materialistic and will not be idealistic, at any rate serves to exhibit the superfluity of a dualism of substance; for why say there are two substrata, if both are unknown? It explains too how it is that monism has become the order of the day. A glance at that enterprising and significant journal, *The Monist*, will shew how eager scientific men are to help in the new construction.

This demand for monism by scientific men who reject the old materialism is in itself a hopeful sign. In discussing psychophysical parallelism we have had to notice this movement. It then, however, became apparent that we cannot hope much from a monism that sets out from two totally distinct and disparate orders of phenomena, least of all when the spontaneity that belongs to the one is declared to be illusory or impotent, solely in order to save the inertness which is held to be the essence of the other. Nor again can we reasonably content ourselves with a monism which, however anxious not to be called materialistic, yet disclaims the title of idealistic or spiritualistic with even greater vehemence, being unwilling at any price to part with its mechanical scheme.

Two questions then here present themselves: (1) Can we transcend this phenomenal dualism, or is it ultimate and inevitable? (2) And if *that* is not ultimate, can we then also get beyond agnostic monism, with its materialistic bias? In some form or other these are among the oldest and most intractable problems of philosophy; what likelihood is there, therefore, that we shall succeed in our day, when long centuries behind us are strewn with failures? Of course I do not for a moment suppose that the last word will be heard on these questions in our time; certain I am that the *dicta* of Naturalism and Agnosticism will not end the quest. Nor can I admit the ignorant commonplace that philosophy has made no progress. And progress is all that we can look for: finality from the nature of the case is impossible. As I urged in the first lecture, relative knowledge implies relative ignorance, and relative ignorance again implies soluble problems. Now the function of philosophy, we are often told, is to organise and unify knowledge. To this end it is before all things necessary to make knowledge itself an object of reflexion and study. This science does not do, and — what is worse — the dogmatic metaphysics of Descartes, on which the whole fabric of modern knowledge long rested, did not do it either. As a consequence, the dualism of things mental and things material, *res cogitantes* and *res extensæ*, has been a problem for the critic of knowledge ever since. It ought not to be thought presumptuous if philosophers claim that during these two centuries of reflexion on that problem they have made some progress.

Psychology and the natural sciences advancing inde-

pendently on the basis of this dualism have, as we have seen, only widened the breach. For natural science the question was how to get from matter to mind; the attempted solution by the hypothesis of psychophysical parallelism we have found defective and unsatisfactory. For psychology the question was how to get from mind to matter, the problem, in other words, of external perception. The result, again, I am bound to say, is defective and unsatisfactory. Shut in within a circle of ideas, how could the mind know the things beyond, which this very circle shut out; how could it trust the copies if the originals were forever beyond reach, nay, how know that there were any originals at all? Such were the questions raised in particular by British thinkers, from Locke to Reid. These were the questions which Locke slily remarked "seem not to want difficulty," and which Hume boldly declared hopelessly insoluble; while to resolve them Berkeley denied Descartes' outer circle of things and Reid his inner circle of ideas.[1]

Meanwhile the rationalistic thinkers of the Continent, setting aside sense-impressions as too obscure and confused to afford immediate knowledge, looked to clear, distinct, and orderly thinking as the one method by which knowledge was to be educed. This procedure too proved futile and disclosed its essentially formal character, when Wolff at length made the law of contradiction the cardinal principle of his philosophy. Then came Kant, and the question of external perception was taken up into the wider one of the nature of experience. For so we may broadly characterise the

[1] Cf. Fraser, *Life and Letters of Berkeley*, p. 386.

inquiries of his three critiques; since all that we know and feel and do, all our facts and theories, all our emotions and ideals and ends, may be included in this one term — experience.

It is then by raising this question as to the nature of experience that, as I think, we shall see the untenability both of dualism and of the neutral monism that is nominally to supersede it. I have mentioned Kant, not because I propose to follow him in detail, but because he first raised the right question, avoiding in the main the one-sidedness both of his sensationalist and of his rationalist precursors. There are active as well as passive factors in experience, and the pre-critical philosophers had tended each to emphasise only one. To carry the mind beyond itself Locke's *tabula rasa* was as helpless one way as Leibniz's windowless monad was in the other. But Kant, though he made both sensibility and understanding essential to knowledge, yet failed to make a satisfactory unity of the two. His 'affections of the sensibility' were only Locke's impressions over again. Between the aggregate of these affections and the independent functions of the understanding, he did not succeed in establishing any true organic connexion. His matter of knowledge and his forms of knowledge stood too much apart; the result was too much that of sensationalism and rationalism placed side by side, rather than the complete reconciliation of both. Still it was his problem, taking experience as a fact, to render it intelligible, and he entered upon this, not by assuming a dualism of matter and mind, but by insisting on the duality in unity of subject and object. And with this we too must start.

Let no one hastily conclude that between this duality and that dualism there is only the faintest verbal difference, that subject and object are but mind and matter over again. According to the Cartesian philosophy, of course, mind and matter were not only distinct and disparate, but absolutely separate and mutually independent. Their union in fact was a miracle, and so, for science, a stumbling-block; and one, too, which the various hypotheses of occasionalism, preëstablished harmony, psychophysical parallelism, have severally failed to surmount. But at any rate there cannot be this great gulf fixed dividing one part of experience from another. We may ask how such conceptions can have arisen and discuss their validity, but we cannot set out from them as a fact.

There is for each but one experience, his own; and an experience that is not owned is a contradiction. We can assign no *fixed boundary* to our experience except by extending it in thought, and thought itself involves experience. Hence the phrase, 'content of experience,' or 'content of consciousness,' is apt to be misleading. The experience of one is not limited by the experience of another as one portion of time or space is limited by another portion of time or space. The continuity of experience is not then imposed from without. Experience is rather an organic unity that we always regard as self-maintained. In a word it is life, *βίος* — life as it is for the living individual, not life, or *ζωή*, the interaction of organism and environment, with which the so-called biologist is exclusively concerned, and where both organism and environment are objects for a distinct

observer. It behoves us therefore to take all possible pains to keep these two very different standpoints distinct. Psychology, as I have already remarked earlier in these lectures, has been most seriously hampered by confusing them.

We start then with this duality of subject and object in the unity of experience. What a subject without objects, or what objects without a subject, would be, is indeed, as we are often told, unknowable; for in truth the knowledge of either apart is a contradiction. It is their unity that specially interests us, for we look to this to free us from the perplexities of dualism. Some current conceptions of this unity I feel bound to controvert. First of all it is held and rightly that to a given experience or life there can only be one subject, but that —and to this I demur—there must be many objects. The unity of experience pertains to the objective as well as to the subjective. According to Kant, it will be remembered, experience begins with a mere manifold or disconnected multiplicity of sensations, which are then synthesised into a temporo-spatial continuity. Disconnected in a logical sense this manifold may be, but psychology, I trust, has outgrown this notion of isolated particulars or 'mental atoms,' somehow strung together on a 'thread of consciousness.' Whatever development or differentiation an individual experience may undergo, it does not *become*, but always *is*, a unity. Sensations are not like grains that the subject picks up, but changes in an objective continuum that is always there as an unbroken whole, however indefinite as respects boundaries. I am loath to dwell on this point, partly because I have done

so already elsewhere,[1] and still more because it is coming to be generally conceded. I pass then to another more open to debate.

Sensations are commonly described as subjective affections or modifications. Such language has, by the way, the incidental advantage of disowning by implication the atomic conception of sensations. But are these primary presentations subjective? From one point of view this language is perhaps justifiable; it is at least convenient. In a sense all A's experience, *quâ* his and not B's, is subjective; and particularly in the sensations of either there may be peculiarities or idiosyncrasies that are undiscoverable and incommunicable. Nevertheless, I contend that the sensory and motor changes or processes entering into each conscious experience are objective for the subject of that experience; inasmuch as they can be attended to or apprehended, liked or disliked. For cognition they are a 'this' and a 'what'; for volition they have a 'worth.' To say that sensations and movements are, from the point of view of individual experience, modifications of the subject, forces us further to say, either that they are originated by the subject, or by what we commonly call objects, or by an unknown thing *per se*. All three alternatives have had their advocates. The first and third, the theories respectively of Fichte and Kant, are attempts to render experience intelligible by transcending experience; the one on the side of the subject, the other on that of the object. These, as they stand, have satisfied nobody. Even Fichte had to allow the duality of subject and

[1] *Encyclopædia Britannica*, article *Psychology*.

object within experience, and Kant to treat his thing *per se* as a problematic and limiting conception. The second alternative is that of ordinary thought. The material thing we call an orange is commonly regarded as an independent 'real,' that gives rise in each percipient to his sensations of colour, taste, and so on. But this, as it stands, is just the theory we have found to break down, the theory that rests on the dualism of phenomenon and epiphenomenon, and leads to all the difficulties of psychophysical parallelism. It presupposes, too, that very primacy and independence as pertaining to the physicist's external phenomenon, which we have seen reason to disallow. If this phenomenon is not to be itself a thing *per se*, its own reality consists of just such sensory '*præsentabilia*'[1] as it is supposed to cause. This theory, at any rate, Kant has exploded; albeit, unhappily, he never completely broke away from the Cartesian opposition of mind and matter. He often seems to identify mind with the subject of experience on the one hand, and matter with the object of experience on the other. There could hardly be a greater mistake than this identification; for the duality in unity of subject and object at once lapses, and the old gulf between thinking substance and extended substance, between external phenomena and internal epiphenomena reappears. It is safer to leave the terms 'matter' and 'mind' entirely aside for a time, and to keep strictly to the facts of experience. But, if we must talk of mind, let us beware of accepting the descriptions current among psychologists.

[1] An awkward, but useful, word of Helmholtz's.

They may be admirable as rough approximations for expository purposes, but even then are apt to confuse. Thus no less eminent a writer than Dr. Bain suggests that, "Mind is definable in the first instance by the method of contrast, or as a remainder arising from subtracting the Object World from the totality of conscious experience."[1] But when he reaches our present problem of external perception he is careful to add: "There is no possible knowledge of a world except in reference to our minds. Knowledge means a state of mind: the notion of material things is a mental fact. We are incapable even of discussing the existence of an independent material world; the very act is a contradiction. We can speak only of a world presented to our own minds."[2] And, of course, this is the statement we should prefer to accept; but then, it reduces the preliminary definition to a contradiction, in so far as conscious experience without objects is such. Again, whereas the later statement recognises the fundamental unity of experience in the duality of subject and object, the earlier explicitly contemplates its separation into two kinds — subject-consciousness and object-consciousness. But there must be an objective side to the subject-consciousness, and a subjective to the object-consciousness. Are the subjects then identical, and how are the objects related? The objects of the subject-consciousness, we should be told, are those of an individual experience only; those of the object-consciousness are the objects in which all other sentient beings participate. I am quite willing to accept this answer; it leaves us free

[1] *Senses and Intellect*, fourth edition, p. 1. [2] *o.c.*, p. 399.

to treat sensations as essentially objective, and only brings out the fact just now mentioned, viz., that the term objective is ambiguous till we know the standpoint from which it is used. What is psychologically objective is often treated as epistemologically subjective, as it is by Kant, for example, continually.

One further point by way of elucidating our claim to treat sensations as objective. Such a claim is often disallowed on the ground that sensations pertain really to feeling and not to cognition; or again on the ground that they are the *matter* of experience simply, whereas the objects of cognition must have *form*. This, as we know, was substantially Kant's position, and made it easier still for him to slide into defining sensations as subjective affections. But the farther progress of psychology since his time has, I think, fairly routed this whole position. Sensations *have* form; in other words, they have inalienable characteristics, quality, intensity, extensity; as people say again nowadays, they have a 'what' as well as a 'that.' Again, they are not isolated; but, as I have already urged, they are changes in what — for want of a better word — I have been fain to call a presentational continuum. The so-called 'pure sensation' of certain psychologists is a pure abstraction; as much so as the mass-point of the physicist, but without perhaps the same warrant on the score of utility. The whole doctrine of the gradual elaboration of perception out of purely subjective material is fast being relegated to the region of psychological myth; but it would carry us too far from our main problem to discuss this in detail here. When Locke treated sensations as ideas, or pre-

sentations, as we should now say, and defined these as "the objects of the understanding when a man thinks," he was really nearer to the truth, than Kant was with his artificial distinction of matter and form. It is physiology rather than psychology that has kept the notion of sensations as subjective affections in vogue. Primary or perceptual presentation is all we mean, and such a term has the advantage of making the objective character explicit, and of ignoring physiological implications with which we have nothing to do.

And now we may pass to another question. If these primary presentations are essentially objective, not subjective, modifications, how is the relation of the subject to such objects to be conceived? The subject has several necessary relations to all actual presentations, and to these we must refer presently. But as regards the bare fact of presentation there is nothing to be said; it is that relation of subject to object and of object to subject, in virtue of which they are severally subject and object. As the absolutely ultimate relation within experience we can either say that it is inexplicable, or that it needs no explanation, or we may entertain the notion of an Absolute, in whom the unity of experience outlasts the duality. But one thing, I think, we must not do: we must not attempt to bring this relation of subject and object under the category of cause and effect. I do not mean to deny that there are causal relations between subject and object, object and subject —quite the contrary. I only demur to the assumption that the subject-object relation itself is causal. Without meddling with any of the many vexed questions

concerning causation, it is at least clear that causes must be real before they can be causes: an effect or consequent cannot give rise to its own cause or antecedent. Causality logically presupposes reality, not reality causality. But subject and object in the unity of experience is the real. If we disabuse ourselves of the psychological fiction of isolated sensations pattering like spots of rain on a *tabula rasa* from an outer nowhere; if we think instead of the objective factor (or presentational continuum) as an unbroken whole — as much a whole as a mere continuum can be — then we see, I think, that this — for experience — absolutely fundamental relation cannot be causal. We ordinarily employ the category of causality to relate one part of experience to another, a change to an antecedent change. Thus in its very form it presupposes distinction within experience, and accordingly this relativity within experience ceases at the very moment when the part coincides with the whole. Similarly we may assign a position to one part of the universe relatively to another, but not to the universe itself. Difficulties, analogous to those besetting absolute time or absolute place, arise when we try to make causation absolute by extending it to experience *en bloc*. And in fact all attempts to treat the relation of subject and object as causal have engendered such difficulties. I referred to these a moment ago; it may be well now to recur to them in more detail. But to prevent misapprehension let me again repeat that the question is not whether any interaction between subject and object is conceivable, but simply whether the relation of subject and object as that presents itself in

the time-worn problem of external perception can be regarded as a causal relation.

First of all let me urge again that, at all events, we have not the warrant of direct experience itself for so doing. Those who imagine this are, as I think, misled by the ambiguity of the leading terms. Thus mind is sometimes used as coextensive with an individual experience in its entirety, as in empirical psychology, for instance; at other times it is restricted to the subject that has the experience. So, in like manner, subjective refers at one time exclusively to this subject, at others is made to cover both the subject and the totality of its objects as such. But once we clear up this vagueness in our terms, we find no warrant within experience for regarding presentations as modifications of the subject that has them. Comparative psychology, which — according to the usual expositions of the differentiation of subject and object — ought to furnish strong evidence in support of this assumption, is, on the contrary, as Professor Riehl[1] has pointed out, conclusive against it.

But we may still entertain the hypothesis that the immediate objects of experience are ultimately, in some underground way, offsets or emanations of the subject. If we do this in Leibniz's fashion, — suppose, that is, that each several subject evolves its own experience from within, — we have a world which is really no world at all, a world in which there is actually no community or interaction, but only the semblance of them. And even this semblance, as in the famous example of the

[1] *Der philosophische Kriticismus*, Bd. II, ii, p. 54. Cf. James, *Principles of Psychology*, vol. ii, ch. xvii.

two clocks, is only secured by the altogether extraneous assumption of a preëstablished harmony in the respective developments of the isolated, independent, windowless monads. If we go to the opposite extreme, and, following Fichte in his daring speculation, set out from an Absolute Ego that posits its own Non-Ego, we have then a converse difficulty, as Fichte soon discovered. There is no way for us from such an act to the world of finite subjects, face to face with a Non-Ego which they have not posited. The relation of subject to object in such experience is where it was. We cannot begin from God and construct the universe. Even if we persist in calling the objective factor in our experience a subjective modification, at least we cannot pretend that the subject is the cause of it. There is, perhaps, no point in the whole of philosophy as to which there is such complete agreement: idealist and realist, sceptic and dogmatist, are here almost invariably at one.

Those who treat presentation as a causal relation accordingly look to the object itself as the cause. It is in this aspect that the question "forms the most vital crisis in the whole history of speculation," as Ferrier, in one of his many brilliant essays on the topic, has called it. And had Ferrier been familiar with the Kantian controversies at the close of last century, or had he lived to take part in the neo-Kantian controversies at the close of this, he would have had still ampler grounds for his emphasis than his studies of Berkeley, Reid, Brown, and Hamilton afforded. Kant, as is well known, refers to two orders of objects: objects *extra nos*, or external phenomena, and objects *præter nos*, or things

per se. The former he resolved into 'raw stuff,' mentally elaborated according to the forms of intuition and understanding. To this order the objects of our experience entirely and exclusively belong. Of the second order, the things *per se*, we have not and cannot have any knowledge whatever; neither knowledge that they are nor yet knowledge what they are. Returning now to the raw stuff of phenomenal objects, we ask: What is this, and whence does it come? It consists, says Kant, of sensible impressions or affections; it is produced by objects that excite our senses; in this way only are objects given to us. These objects that are '*given*' to us are, of course, objects of the first order; but of which order are the objects that affect us, the objects that '*give*,' and so set experience going? To this question neither Kant himself nor any of his successors has been able to find a satisfactory and consistent answer. A vast literature has already gathered round the question, and is growing still. Are things *per se*, or are the phenomenal things in space the cause of sensory impressions? This is the question. Whichever way it is answered special difficulties arise; it is therefore not surprising to find, sometimes, things *per se*, and sometimes external objects, assigned as the cause of these 'affections of our sensibility.'

If, as Kant in the main does, we put forward things *per se* as this cause, then how can we also maintain their purely problematic and negative character?[1] They become at once not 'the boundary stones' but 'the foundation stones' of experience. We must know *that*

[1] Cf. Drobisch, *Kant's Dinge an sich und sein Erfahrungsbegriff.*

they are; and further from the variety of their effects we must surely be able to infer something as to their nature as causes. In a word, the categories, instead of being confined to the raw stuff of experience, have now some positive application to these things *per se* which produce it; and these, thus ceasing to be *præter nos*, become only *extra nos* and phenomenal in their turn. Things *per se* of a higher order now seem called for to account for them, and so on indefinitely.[1] On the other hand, if Kant is to be held to his description of noumena as purely problematic conceptions of what are objects for beings whose intelligence is essentially different from ours, it is idle to speak of them as causes concerned in our experience.

Again, if, as neo-Kantians in the main do, we put forward phenomenal objects as the cause of our sensations, we seem involved in a hopeless circle. "For," as Vaihinger in his monumental commentary remarks, "these empirical objects are according to Kant's thousandfold repeated assurances 'nothing but our presentations.' How then can or should these presented objects first affect us in order that we may obtain precisely the presentations in which alone they consist?"[2] In short, remembering that our question is as to the relation of subject and object generally, this answer is tantamount to saying that the objective element in experience causes itself.

There is still another view that it would be wearisome, and as I think needless, to discuss, which should

[1] Cf. Caird, *The Critical Philosophy of Kant*, vol. i, p. 652.

[2] *Commentar zu Kant's Kritik der reinen Vernunft*, Bd. II, p. 51.

perhaps be mentioned. I refer to a doctrine, now in favour with certain psychologists, that I have ventured to call Presentationism. According to this, there are at starting only presentations, and these by their interaction in due course give rise to a special presentation, or rather complex of presentations, called the subject. Such a doctrine I believe we are entitled summarily to rule out of court till it is made plain to us how there can be an experience with no unity, an experience that nobody has.

So far then may we not say that we have good reasons for demurring to treat the relation of subject and object as primarily a causal relation? Some further observations on this position and its consequences time compels me to withhold till the next lecture.

LECTURE XV

EXPERIENCE AS LIFE

Recapitulation and further explication as to the general conception of experience. Its fundamental character the whole difficulty: early reflexion misled by imperfect analysis and by deceptive analogies.

Coming to details, we note that every concrete experience is a process of self-conservation, is a Life. *Kant's distinction of 'matter and form' and his 'Synthetic Unity of Apperception.' Conation more fundamental than cognition. Subjective selection determined by the worth of objects rather than by their 'content.' A purely cognitive experience impossible. Practical interests never absent. Even spatial and temporal relations involve elements due to activity initiated by feeling.*

Spatial perceptions and conceptions compared and discussed by way of showing the shortcomings of dualism. Science, concerned only with the conceptions, ignores the elements due to the conative and practical interests of the subject.

A like comparison and discussion of temporal perceptions and conceptions.

The notion of empty space and empty time, as necessary antecedents of the things and events that are said to fill them, is an inversion of reality.

Let us first recall the general drift of our new inquiry. It is to ascertain if there be not some way of escape from that dualism of mental world and material world, in consequence of which the departmental sciences of physics and psychology have during two centuries become more and more severed and estranged from each other. Modern thought finds itself in a

quandary familiar to most schoolboys working a sum, when they bring out an answer which they know cannot be right, while yet they fail to see any fault in their mere arithmetic. Physics in its own department seems to hold together, and psychology in like manner in its department. Also we know that in experience we find nothing of this gulf which yawns between these sciences, and which hypotheses innumerable have failed to bridge. To avoid this 'scandal of philosophy and of human reason,' as Kant called it, we have proposed to leave the special sciences on one side, and to reflect upon that experience as a whole, which they begin by sundering. Like the schoolboy, we try our sum again on a new method; that is to say, we take up the problem of knowledge.

We started from the duality of subject and object as the first essential of experience. In every concrete experience there is one subject; and on the objective side, too, such an experience is one, one life; the subject is continually in touch with one world, one environment. The law of this life is change. Differentiation, development, there may be too; but such life is not a process of integrating particulars originally isolated as well as distinct. Given a subject, or centre of experience, and such an objective complement; then the most salient feature is their interaction: the feelings that objective changes induce in the subject, and the actions to which such feeling leads. To these we must turn next. But first, one or two remarks on what has been already said of this bare relation of subject and object, which we have found to be the very

basis of experience. It cannot, we say, be itself a relation of two disparate substances; the unity of experience forbids that. Moreover, the dualism that has brought our 'scientific philosophy' to a deadlock, went wrong in this way. But can we even describe this relation as a modification within one substance; can we say that the object is a mode of the subject or the subject a mode of the object? The attempt has been made both ways, and both ways it has failed. The sensationalism of Locke and the idealism of Berkeley fall, more or less, under the one alternative: the old forms of materialism and the 'presentationism' of certain of our psychological contemporaries belong to the other. The former fails to do justice to the objective unity of experience, and the latter fails, still more egregiously, to do justice to its subjective unity. The attempt again to describe this relation as causal scarcely succeeds better. The subject, no doubt, is active in thought and volition, for example; but thinking and willing presuppose objects: of a subject that either by thought or will posits its own perceptions *we* at least know nothing. Also it is true that one object, or rather one change in the objective continuum, may prove the cause of the presentation of another; so to relate change with change is indeed the special function of the category of cause. But this, like any other relation of particular object to particular object, leaves the more fundamental relation of subject to object just where it was.[1]

[1] Cf. J. S. Mill, *Examination of Sir. W. Hamilton's Philosophy*, third edition, p. 231.

The fundamental and ultimate character of this relation is, in fact, the whole difficulty. Experience is far advanced before even the rudest reflexion about it can begin. Imperfect analysis and deceptive analogies are the first result of such reflexion; and as these become embodied in common thought and language they count for part of the facts, though really fictions that belie them. Thus, the subject being identified with the organism which is but a special object among others, the whole objective continuum is said to be an affection of the subject, because the physical environment affects the body. So we get the notion of sensations as subjective affections, whose causes are still to seek. Then come the metaphysical travesties of inner and outer, which refer originally and literally to space divided into two compartments by a man's skin. But presently, since it is said there is nothing in the intellect but what first came through sense, 'inner' comes to mean the whole of each one's experience as it is for him, the psychical side of his particular brain; inner is then the equivalent of subjective. Outer, on the other hand, is the brain side of this particular subject *plus* all the rest of the external world; in this all sentients alike are supposed to participate. Imagine a dozen genii, each one hermetically sealed in a bottle, but all collectively roaming at large, and you have a fair parallel to this figure of inner and outer. Again, look for a moment at another line, where reflexion shews itself equally confused and incomplete. The sense of touch, from its intimate connexion with muscular activity, is held to present the actual; while sight, spite of its pre-

eminence in cognition, being a fruitful source of illusion, is found often to present things as they 'appear,' not as they actually, *i.e.* tangibly, palpably, are. So by an easy step *all* our sensible intuitions come to be regarded as phenomenal, the things *per se*, which are held to be their cause, and by which we might test them, being now out of reach. But how then, we are led to ask, can we speak of such things *per se* at all? And yet the answer is easy, once we are committed to the notion that sensations are subjectively affections, and objectively appearances or phenomena. For the validity of these notions being taken for granted, Kant argues with perfect cogency when he says "that we must have something to correspond to the receptivity of the sensibility."[1] And again that "it follows naturally from the notion of a phenomenon of any sort that something must correspond to it that is not itself phenomenon"; also "that the very word 'phenomenon' indicates a relation to something, the immediate presentation of which is indeed sensible, but which in itself apart from this condition of sensibility, must still be Something, namely, an object independent of sensibility."[2] But the prime question is not what the notions of receptivity and phenomenality implicate; but what warrant these notions themselves possess in experience. And here we can only follow suit and, like the great body of Kant's critics, preach to Kant from himself. Let what may be outside experience, if there can be anything, and the supposition is not nonsense, at least

[1] *Kritik der reinen Vernunft*, Kehrbach's edition, p. 403.
[2] *o.c.*, p. 233.

there cannot be bare subjects lying in wait for objects, nor objects that by definition never are positively objects. If the categories of substance and cause are only valid *within* experience, they cannot be applied to experience as a whole. Whatever implications experience may involve, it surely cannot involve that of transcending itself. Such miscalled transcendence, if it have any validity, must really be immanence at bottom.

If this duality in unity of subject and object be indeed the fundamental fact of experience, present alike in cognition, in feeling, and in volition, then, so far at any rate, there can be nothing to explain. The demand for explanation may be taken as evidence that we have misconceived the facts. On this ground therefore we must suspect and avoid all statements of experience that introduce conceptions of relations narrower and more special than itself. Such, for example, is the reference to organs of sense excited by external stimuli. Such again is the contrast of perceptual experience with experience as modified by intersubjective intercourse, a contrast which leads us first to picture each individual as confined strictly to his own inside, and then with Mr. Spencer and others to exclaim about "the mysteriousness of the consciousness of something that is yet out of consciousness, which, nevertheless," they say, "we are obliged to think."[1] I am well aware that this is the region of controversy and that dogmatism is here peculiarly unbecoming. But there is another side to the situation. The very failures that have overtaken the old watchwords make it fitting to ask, whether it

[1] Cf. Spencer, *Principles of Psychology*, vol. ii, p. 452.

be not possible to take a little less for granted, and to be charier of metaphors; whether it is not time to treat as futile all attempts to *explain* experience, at any rate all attempts to explain it by what falls short of it on the one hand, or goes beyond it on the other. To enounce that experience is a whole, or more precisely a continuity, that it consists in the correlation of subject and object as its universal factors, is a statement that seems to tamper with no facts and to involve no hypotheses.

We must now look closer and see if this conception of its unity still holds good when we come to details, and advance from simpler to more complex forms of experience. The first thing to note is that experience in the concrete, that is any one's experience, is a process, not a product. We speak of certain fixed arrangements of objects as a product — a house, for example, or a proposition of Euclid. But on the other hand all products, whether of thought or art or nature, presuppose processes, of which we either have, or conceive that we might have, an experience. We cannot, of course, recall the beginning of our own experience, nor can we, either by observation or inference, attain to any conception of an experience which should be the simplest possible. But all that we know, directly or indirectly, warrants the statement that all experience is process; not merely change, not merely 'felt change,' but felt interchange. Broadly speaking, every objective change, every change of perception, entails a subjective change; and every subjective change an objective change. I say, broadly speaking, because there are *uninter-*

esting presentations, to which there is no subjective reaction, and which are *pro tanto* of no account even for knowledge. In other respects, nevertheless, these deserve our consideration; they shew that the objective continuum has no definite limits, and they constitute a field for future advance. Such a beyond we are never without. To this topic belongs Leibniz's classic distinction between perception and apperception, the conscious and the subconscious, with all the tangled questions thereto appertaining. To these we may have to recur later. But we may for the present leave it aside.

The selective interest, which we may fairly take as characteristic in some measure of all experience, leads to the remark that experience as a process may be further defined as a process of self-conservation, and so far justifies us in describing it as life, or *βίος*. It is scarcely an exaggeration to say that the objects of experience are not primarily objects of knowledge, but objects of conation, *i.e.* of appetite and aversion. For though an object must be cognised before it can be liked or disliked, still it is to interesting objects that the subject mainly attends, and it is with these, therefore, that the subject acquires a closer and preciser acquaintance. A certain affinity or *consensus* between this feeling and acting subject and its objective *continuum* is then characteristic of actual experience, so far as we can ascertain. Such intimacy and adaptation is simply the counterpart of the fact that to each subject there pertains a distinct organism and a special environment. It was but a one-sided analysis, logical rather than psychological, that led Kant

to resolve experience into the dualism of matter and form. Oddly enough Kant illustrates his position by referring to the embryological controversies of his time, but yet fails to see how close is the connexion between experience and life. There were three hypotheses concerning life then in vogue: first, that of its spontaneous generation from matter; next, the hypothesis that all life begins from a germ. But of this there were two varieties, the pre-formation hypothesis, according to which the germ was literally a complete organism in miniature, which merely unfolded like a bud; and the hypothesis of epigenesis, which denied this mere expansion of the germ, and maintained that each organism was built up *de novo* by a formative impulse or *nisus*. With this last hypothesis, which was the best established, Kant compares his own theory of experience; to the first he likens the sensationalist theory as commonly put down to Locke; while Leibniz's preëstablished harmony is apparently meant to correspond to the second. It is, no doubt, as hopeless to try to conceive experience arising simply out of any mere aggregate of sense-impressions as it is to conceive life emerging from any aggregate of material particles. But is the case really mended when over against such an aggregate of sense-impressions we set the pure reason of the Kantian philosophy with its forms of intuition and of thought? From pure matter to which all form is indifferent, and pure forms to which all matter is indifferent, how is a definite result possible? The *nisus vitalis* in the hypothesis of epigenesis was, after all, only formative within an already organised germ, and

was powerless to act directly on unformed matter. If Kant is to be in earnest with his simile of epigenesis, then he must discard the formless matter of his sense-manifold. As I have already urged, psychology has certainly disposed of it, and we may safely say with Professor Stumpf, to whom this question owes so much, that "that cannot be true in epistemology which is false in psychology."[1] Whatever may be the value in logical analysis of the metaphor of matter and form, "the clumsy potter's phrase," as Herder styled it, it is certainly inadequate to the synthesis of experience, as indeed all material analogies are.

Kant represents this synthesis of experience as an activity of the subject, an activity too which in thought is spontaneous. But the point upon which I am concerned to insist is that there is no activity and no spontaneity apart altogether from feeling and interest. Experience can *not* without mutilation be resolved into three departments, one cognitive or theoretical, one emotional, and one practical. To be just to it, Kant's three critiques must be combined into one. It is true that what we take and what we find we must take and find as it is given. But, on the other hand, it is also true that we do not take — at least do not take up — what is uninteresting; nor do we find unless we seek, nor seek unless we desire. The cognitive aspect of experience, in a word, is far more one of experiment, as its very etymology suggests, than one of mere disinterested observation. The philosopher may look on at the buyers and sellers in the market-place, but the real

[1] *Psychologie und Erkenntnisstheorie*, 1891, p. 18.

experience is their trafficking, not the notes of this detached bystander. Regarding experience in this wise as life, self-conservation, self-realisation, and taking conation not cognition as its central feature, we must conclude that it is not that 'content' of objects, which the subject cannot alter, that gives them their place in its experience, but their worth positive or negative, their goodness or badness as ends or means to life. We realise this truth if we try to imagine a purely cognitive being — a subject apprehending or thinking but devoid of any interest in thought or apprehension. What psychologists call 'the span of consciousness,' its limited field and still more limited focus, has to be taken into account. What is to determine which objects shall enter this field, and on which attention shall be concentrated?[1] Kant, no doubt, did well in declaring the synthetic unity of apperception to be the paramount principle of knowledge, but it is surely a mistake to suppose any synthesis, or any unity, possible, apart from motives to action and a practical interest in things. The centrality and organisation — I intend the words to be taken very literally — which all concrete experience manifests, could never arise to a merely cognitive subject; nor to us, if our intellective were independent of our practical powers. In proof of this we have only to turn again to what Naturalism mistakes for experience — an indefinite multiplicity of inert unchangeable items related only by unchangeable, unmeaning, mechanical laws. Hence, the inability of

[1] We can scarcely credit such a subject with an organism, for this seems necessarily to imply sentient activity.

Naturalism to connect such a centreless, aimless, fatalistic scheme, "a cosmic process that has no sort of relation to moral ends,"[1] with experience as the self-conservative process which it is for each of us. It is this inability which we are seeking to remove.

Even spatial and temporal relations as we actually experience them involve practical elements, which can only be accounted for when experience is regarded as life and not merely as theory. For lack of these elements the mathematical conceptions of space and time are abstract and unreal. Kant, as we all know, treats both space and time as pure forms of intuition; and space and time as conceptual ideals *can* be so treated. But I think psychology teaches us that we should have had no perception of either the one or the other but for our practical interests. One essential of spatial perception is voluntary movement. Though such movements are objective changes as much as sensations are; yet they are changes which produce other objective changes, and changes which the subject initiates. To them we owe the notions of distance and of measurement. To them we owe, too, the all-important notion of a definite origin, a here to which we relate all theres. Similar remarks apply in the case of time. The present is the time in which we act; the future that for which we prepare. To the present we actively adjust — we look, listen, handle, pursue, retreat. With the past, as past, we have no dealings; it is "over and done with" as we expressively say, save as it leads us to expect and modify the future.

[1] Huxley, *Evolution and Ethics*, p. 34; *Collected Essays*, vol. ix, p. 83.

It will repay us to reflect on these points a little longer, as a comparison of our concrete time and space perceptions, if I may so call them, with the abstract ideals of time and space current in exact science helps to lay bare the shortcomings of dualism. We shall find a far more intimate connexion between the subjective and objective factors of experience than would be possible if dualism were true.

If the psychological position that a knowledge of space presupposes active movement be sound, then no merely cognitive activity in apprehending and comparing changes of quality and intensity would make us aware of space as an indefinite manifold of three or more dimensions. We might still have our objective continuum; and the changes in this, like the changes in a melody or in our organic sensations, might — we will for the present suppose — be remembered and compared. Time as the abstract form of succession would thus be possible. But the only element of space that we should have would be that of extensity: the voluminousness or massiveness that we now connect with embodiment, but which we should then connect with nothing, for there would be nothing from which to distinguish it. Whether, on shipboard, we look down at the deck, or away to the horizon, or upwards at the sky above us, the extensity of the colour sensation is in each case the same; the difference in the space seen is due to acquired perceptions involving movement.[1]

[1] A fact first clearly brought out by Berkeley in his *Essay towards a New Theory of Vision*, thus opening a new chapter in the theory of knowledge, and one the full significance of which has hardly yet been realised.

"We can never imagine," says Kant, "that there is no space, although we can quite well think that no objects are *met with*[1] in it." But, having thought away all objects, how do we imagine this empty space itself? Kant's own words betray him: we suppose ourselves to be traversing this space and *meeting* with nothing as we proceed. But how could such a progress be imagined by a subject incapable of active movement; and if there were no such imaginary movement what would be left of pure space as an infinite whole? And again, though in the first part of his *Critique* he describes space as an infinite given magnitude, in the next he has to allow that we cannot think of a line without in thought *drawing* it, or of a circle without *describing* it, nor ever imagine the three dimensions of space without *producing* three lines intersecting each other at right angles through the same point — all which is obviously in contradiction with the notion of space as an infinite given whole.

Perhaps we may most clearly realise that movement is an essential element in our spatial experience if we contrast with it that omnipresence or repletive ubiety as the schoolmen called it, which they, followed by Locke, Newton, and Clarke, attributed to the Deity.[2] In a remarkable passage in his *Opticks*, Newton speaks of absolute space as the sensorium of God; and Clarke in his famous controversy with Leibniz[3] compares the

[1] Italics mine.

[2] Of course it is empirical space not the abstract space of geometers with which we are now concerned. Kant's great mistake was to confound the two.

[3] Leibnittii, *Opera Philosophica Omnia*, ed. J. E. Erdmann, p. 750.

presence of the soul to the sensations "in its little sphere" with this living presence of the Deity throughout immensity. The ubiquity of the soul in the body as sentient — definitive ubicty, as the schoolmen termed it — is thus the counterpart of the omnipresence of God in space; or, according to the phrascology I have been using, a presentational continuum of infinite extensity is present to the Divine Mind, but to the creature mind a continuum limited to the impressions of a definite organism. With the alleged defects of Newton's simile — as, for instance, that it makes God the soul of the world — we have at present no concern. It serves to bring out one point: the only experience in which an intuition of space as an infinite given whole is possible, is one in which every place is here and all places present together. To such ubiquity movement would be needless and even unmeaning; but such ubiquity would not be our space. Within the little sphere of its own sensorium, to use again Clarke's phrase, the finite subject has ubiquity, but unlike the Deity, it can actively intervene even here only by movements. Apart from these this restricted ubiquity would not suffice for a 'form of externality.' But it is our conative interests that lead to the movements by which we advance to the full perception of space.

It belongs to psychology to explain this advance in detail: the distinction of the body as an occupied space in which impressions are 'localised' from other bodies and the environing space into which impressions are 'projected'; the invariable reference to the body as the here or point of departure; the steadily decreasing defi-

niteness of these spatial perceptions as the radius of the little sphere extends, and we pass from the more adjacent places, in which we can discern both direction and distance, to those in which only directions are perceptible, from places so contiguous as to be controlled by changes of posture to those amenable to control only by locomotion. It is from this psychological, perspective space, with its absolute origin in the 'here' of the percipient, each successive shell as we recede from this centre, differing in characteristics and ordinates and even dimensions, and differing largely by reason of the different movements to which it is correlated — from this concrete spatial scheme it is, I say, that the abstract space of Euclid has been elaborated. And it bears manifest traces of its origin, as the recent developments of generalised geometries abundantly shew.[1] I grant that geometry involves intuitive construction and not merely logical distinction; but this construction presupposes such free movements as our bodies can make, movements either of translation or of rotation. Had we been "evolved" to maintain like compass-magnets one constant orientation, or like screws to move only by rotation and translation conjoined, it would be hard to say what we should have made out of space of three dimensions.

But, though our geometrical space contains elements due to our motor experiences, it differs in important particulars from our spatial perceptions. *Entre l'homme et le monde il faut l'humanité*, said Comte; and it is precisely this intervention of 'humanity,' of *Bewusstsein*

[1] Even the phrase '*third* dimension' is in this way significant.

überhaupt, as Kant styled it, of understanding, reason, thought — call it what you will — *between* the percipient and his immediate objective experience that has made geometry possible; and it is this also that has given rise to dualism. We shall have to deal with this problem at length in the next two lectures; but it may be helpful to anticipate that general discussion so far as space and time are concerned. An adequate treatment even of this special question is quite beyond our limits. I propose to refer to only three closely related topics in this transition from spatial perception to spatial conception, the transition, in other words, from actual experience of spatial relation to the bare idea of pure space. Into the actual experience there enter always three factors; viz. various extensive continua, various series of active movements or motor continua, and a primary position or origin, which we call 'here.' About all these there is — from the standpoint of individual experience — something absolute. Sensory impressions as extensive, movements as protensive, have what psychologists call 'threshold values.' Such *minima sensibilia* furnish a standard of magnitude that is indeed relative *to* the individual, but not relative *for* the individual. A man cannot take thirty steps to the yard as a mouse must do, nor can he 'mark time' like the wings of a gnat. I have always admired the sagacity of Locke's remarks on this point: "Every part of duration," he says, "is duration too; and every part of extension is extension, both of them capable of addition or division *in infinitum*. But," he adds with emphasis, "*the least portions of either of them, whereof we have clear and*

distinct ideas, may perhaps be fittest to be considered by us, as the simple ideas of that kind, out of which our complex modes of space, extension, and duration are made up, and into which they can again be distinctly resolved." He then proposes to call this perceptual element of space "a *sensible point*, meaning thereby the least particle of matter or space we can discern."[1] What is epistemologically important in this passage is that it denies thoroughgoing relativity of our spatial (and temporal) perception, while allowing such thoroughgoing relativity to belong to our conceptions of space (and time). Given only the pure space of Kant and the geometers, it is impossible to deduce the actual space of experience; but, given this, the deduction of that is intelligible. The one, as perceptual, really affords a foothold for the construction of the other as a conceptual ideal. Psychologically regarded, 'large' and 'small' are not purely relative terms; while, *per contra*, zero and infinity are simply negations. Certain inconsistencies in Kant's doctrines will make this clearer. First, Kant tells us space is a form of intuition; but a form of intuition is not itself an intuition, any more than a blank cheque is a sum of money. How then, we ask, do we obtain intuitions of definite pure spaces? To this question Kant gives two diametrically opposite answers. At one time he tells us that space ought not to be called a *Compositum*, but a *Totum*,[2] because the parts are only possible in the whole, and not the whole through the parts. In conformity with this standpoint, he then

[1] *Essay concerning Human Understanding*, bk. ii, chap. xv, § 9.

[2] *Kritik der reinen Vernunft*, Kehrbach's edition, p. 364.

describes definite spaces as arising solely through the limitation of this infinite given whole. But at another time he asserts that space is not a *totum*, but a *compositum ideale*, "in which the idea of the part makes the idea of the whole possible, and therefore necessarily precedes it."[1] It is in keeping with this that he says:[2] "I cannot imagine any line, however small it be, without in thought drawing it, *i.e.*, from one point producing all the parts, one after the other." But how, I ask, is either procedure possible? How, setting out from space as an infinite whole, am I to determine the point by limitation, and how, from the point as zero, am I, by a gradual synthesis of smallest possibles, to set up the infinite whole? But there is still a third view of space to be found in Kant's writings, and this is, I think, the true one. The infinite extent and the infinite divisibility of space are ideals; setting out from a finite line, we can actually progress or regress indefinitely, but not infinitely. Pure or absolute space is then not the presupposition of spatial experience, but the consequence of idealising this. In keeping with such a doctrine, we can say space is both a *totum* and a *compositum* — a *totum* so far as our "little sphere" of extensity or ubiquity goes, a *compositum* so far as we quantitatively differentiate and extend it by movements. This is the foothold to which I just now referred, from which we proceed to measure the world. Active experience thus becomes the basis of geometry, not geometry of experience.

I pass now to my second point. The place we call 'here,' however relative to the individual, is absolute

[1] *Kritik der reinen Vernunft, Analytik*, § 26, note. [2] *o.c.*, p. 160.

for the individual; 'here' is where we primarily distinguish right and left, up and down, before and behind; here is the point through which we set up our rectangular coördinates and distinguish what Kant called regions in space. But suppose we start with pure space, where is this origin to be placed, and how are these axes to be laid out? Anywhere it will be said, and anyhow, provided the axes are rectangular. Very good, but then why not everywhere and everyhow and differently at different times? The quandary of the famous ass of Buridanus is as nothing to this and no Leibniz can come to the rescue with the principle of indiscernibles. There is no here and no there, no east, no west in pure space. Its thoroughgoing relativity constitutes it an absolute; it is absolutely relative, — a system of relations without a *fundamentum relationis*, and so a non-entity. The form of a human hand, if we imagine it as the first thing created, would certainly, as Kant says, be that of a right hand or that of a left. Every actual figure must be a definite figure. But I cannot see that such a hand would furnish any evidence of the distinction of regions in absolute space; or even that it would do so if its counterpart were placed beside it. A right and left hand alone in space do not suffice to constitute right and left regions there. Referred both to the same direction, as they perfectly well might be, they would suggest not symmetry but dissimilarity; and, in fact, while to the harp-player they present the one character, to the pianist they present the other. The 'here' of actual experience is the first position in space; to this all other positions experienced are relative, as positions

in the environment. It is from orientation in such a space, a space largely projective, the space, in short, of visual perspective, that we slowly advance, aided by our own memory of the past and by intercourse with others, to the geometrical conception of space as an extensive continuum of three dimensions, homogeneous in all respects. But setting out from such an abstract conception, simplified to the utmost by long experience, we should find it hard to attain to the concrete space in which we live and find our bearings.

And how do we find our bearings? This brings us to the last point I will venture to notice, — the nature of empty space in which we should certainly find none. Common thought and science alike regard space as a receptaculum, which as such can be either full or empty, and is, in fact, partly the one and partly the other; so at least Newton conceived it. I will say nothing of the glaring logical circle involved in thus describing space by a figure of speech which presupposes it. What I wish to challenge is the notion that space is in any sense prior to or independent of the empirical objects that are said to occupy portions of it and to be all contained in it. It is certain that our first experience is not of "extension which is extension of nothing at all,"[1] but of bodies that are extended. Nor can it be maintained that since the perception of body as extended requires movement, and movement implies space to move in, therefore the knowledge of occupied space implies the knowledge of empty space as well. There is no warrant for the assumption that movement

[1] Croom Robertson, *Mind*, vol. xiii, p. 422.

is impossible without a vacuum, as Locke supposed. Such a view takes for granted that bodies consist ultimately of adamantine particles, incapable of either dilation or compression. This, as Kant, I think, has conclusively shewn, is "a purely metaphysical hypothesis."[1] More in keeping with immediate experience, to say the least, is the view that occupation of space is not a mechanical but a dynamical occupation, and one admitting therefore of varying degrees of intensity. Whether nature abhors a vacuum or no, we at any rate have no evidence of one. Movement is possible where displacement is possible, as we see in a globe of fish, and no other condition is necessary. But, though empirical space is never empty space, the fact that bodies retain their forms and yet freely change their places enables us, first to separate the conception of a given space from any particular body, and then to advance to the conception of space as a whole devoid of all real content and occupied only by itself. We do not say there is nothing there, but that only space is there. And had the empirical space, from which we derive this conception, been one in which we had never found any bodies possessing either fixity of form or fixity of position, our conception of pure space, if we ever attained to it, would have been one in which all the parts were movable, though the motion could no longer be distinguished. As it is we have derived our notions of space from relatively rigid bodies and relatively fixed positions, and accordingly we conceive the parts of pure space as immovable, though these parts can no

[1] *Kritik der reinen Vernunft*, Kehrbach's edition, p. 168.

longer be distinguished. It is odd to note here how extremes meet. What would be true of a space filled with adamant we predicate of a space filled only by imagining it empty. But let us not forget two things: (1) this pure, absolute, immovable space is an ideal; (2) such a conception is only possible to subjects that have had full experience of extended bodies and their relative places and displacements. In a word, the space of the geometers is neither *a priori*, pertaining wholly to the subject in Kant's sense, nor real apart from objects of experience in the sense of Newton and Clarke. It is indeed the work of the mind, has ideality and validity, but not reality; but also it is based upon concrete experiences, in which both subjective and objective factors coöperate.

In the case of time the same general considerations again present themselves, leading, as I think, to the same conclusion. It will suffice to refer to these very briefly. The scientific conception of time as the great independent variable, is only attained by way of temporal perceptions, involving active elements that in turn depend on subjective interests. A mere series of 'nows' would give us no knowledge of time; indeed it is proverbial that so long as we are absorbed in the present we are oblivious of time. "*Dem glücklichen*," said the poet, "*schlägt keine Stunde.*"[1] It is the impulses and interests that the present does not satisfy that bring the fact of time before us; it is appetition that leads us to await; and the tension of pursuit gradually nearing its prize that marks the succession and measures the length

[1] Schiller, quoted by Volkmann.

of time. The more carefully psychologists reflect upon the facts of life the more clearly, as it seems to me, they see that cognitive processes of retentiveness and association, however indispensable, are of themselves insufficient to account for either memory or expectation. Only through subjective selection with its consequent restriction, differentiation, and emphasis of special presentations, can temporal order become distinct. For in such restriction and emphasis we have what the psychologist calls a focus of consciousness; and it is by their successive occupation of this focus that perceptions obtain definite time-marks.

But there is more in temporal experience than succession; there is simultaneity and duration as well. We have all these together in change; and change, we may safely say, is the fundamental objective fact in all our time experience. We cannot perceive a change as happening, unless two or more of its continuous phases are perceptibly distinguishable within the limits of what is for us an enduring now. If no difference of phase is discernible within this 'specious present' as it has been called — whether because the succession is too rapid or too slow, or the difference too slight, matters not — in such a case, though there be a change, we shall perceive none. With time as with space, infinite divisibility is not a matter of concrete experience; we have a certain natural *tempo*, which, however relative when referred to pure time, is not relative for us. In temporal perception too, as in spatial, we have a certain limited ubiquity, a *nunc stans* or enduring now, within which attention moves. Such a movement or 'moment,'

"the time of one idea in our minds" as Locke calls it, is not positively resolvable into a succession; and conversely such moments could not themselves constitute an actually experienced succession, if there were no enduring present within which two or more of them could fall. We are not called upon, I think, to inquire further into the psychological characteristics of this duration. What concerns us rather is the fact that this perceptual experience has no counterpart in the scientific conception of time. There every duration resolves into succession and there is no *nunc stans;* the present is a point of time, not a portion of it. Even this is saying too much; for as in empty space we have no ground for distinguishing here from there, so in empty time we have none for distinguishing now from then; and even the oneness of direction, from past to present, from present to future, is merged in oneness of dimension. It is easy to understand how the collective experience of the race has elaborated this abstract ideal of empty time; but it is surely a mistake to regard it, either as a form of intuition presupposed in all temporal experience, or as having any kind of reality apart from the events which are figuratively said to fill it. It is only as we approach it from the side of these that we can give any meaning to such a notion at all. In this respect it is much on a par with indeterminate forms, — such as x^0, x^{-n}, etc., — which can only be interpreted when it is known how they have been reached. An experience is quite conceivable, in which there would have been no opportunity for the observation of natural, or for the invention of artificial, time-measurers. In

such a case, I imagine, our quantitative conceptions of time would have been as faulty, or as complex, as our spatial conceptions in the absence of all experience of rigid bodies. But whether flowing evenly or not, time cannot be conceived as flowing at all unless we take account both of duration and simultaneity. True, succession only can be brought under the mathematical rubric of dimension, but the practice of representing this one dimension by a line, at once reveals the other elements lurking under it. For we do not literally identify time with a line, but by the length of the line we measure duration, and by motion along it we conceive succession. But we must have a finite portion of the line presented as coexistent, and we must have two positions of the moving point apprehended together and yet distinguished as successively occupied, before we can conceive time: all which we find in every concrete experience of change.

And now, in conclusion, I must endeavour to indicate the bearings of this discussion on our main problem,—the refutation of dualism. Time and space, I have contended, belong neither to the subject alone apart from the object, nor to the object alone apart from the subject, but to experience as the duality of both. They are neither subjective forms psychologically or logically prior to experience, nor are they objective realities independent of experience. Before it is possible for us to elaborate those conceptions of pure, empty, absolute space and time, of which geometry and its possible pendant, chronometry, treat, we must first experience spatial and temporal relations in the concrete. To these

the child, the savage, and the brute are confined. Our advance is due to that partial transcendence of individual experience which intersubjective intercourse secures. It is this transcendence of any given perceptual experience which misleads us into regarding the space and time of mathematics as independent of experience altogether — a fundamental delusion of the dualist to which we shall have to refer again and again. Into our concrete experience of spatial and temporal determinations there enter elements due not merely to the cognitive activity of the percipient, — if we allow for a moment that such activity is conceivable alone, — but elements due to the conative and practical impulses and interests of the subject as a living and self-conserving unity. If this be true, then obviously the procedure of Naturalism must be wrong; experience cannot be disarticulated into dual worlds, one of phenomena and one of epiphenomena; nor the latter be regarded as secondary and dependent on the first as the only world that is capable of going along of itself. The notion of empty space and time as necessary antecedent conditions, either in thought or fact, of the things and events that are said to fill them, although a very natural and persistent inversion of the truth, has — as I think — been conclusively shewn to *be* an inversion, both by psychologists and epistemologists, too, of widely different schools. But my old teacher, Lotze, has perhaps done most to give this conclusion sterling currency in the philosophic world. It seems fitting then to bring this lecture to a close with some words of his concerning time. "Only in the content itself of what-

ever happens, not in a form at hand outside it, into which it may fall, can the ground lie both of the order of its succession and of its being a succession at all. . . . Becoming and activity come first, and bring forth from themselves either the actual course of time or the appearance thereof in us. The persistent contradiction which imagination would allege against such an inversion of our usual mode of thought, we can as little get rid of as of our habit of saying that the sun rises and sets; but we may hope to understand the one illusion as well as we understand the other."[1] Unhappily, I may add, science holds as inveterately, but with far more self-confidence, to the one illusion as common language does to the other.

[1] *Metaphysics*, § 148.

LECTURE XVI

RISE OF DUALISM

Two forms of experience have emerged in the course of our previous discussion: the experience of a given individual and Experience as the result of intersubjective intercourse. Dualism maintained by misconception as to the relation of these two, and by their separate treatment — the one exclusively by psychology, the other by the natural sciences. To refute dualism, then, we need to show that the second form of experience is an extension of the first and that there is organic unity throughout both.

In the case of individual experience, this organic unity illustrated by reference to (1) *Range in time,* (2) *Familiarity or Expertness, and* (3) *Intellective Synthesis.*

Intersubjective intercourse leads to universal Experience, and gives rise to the naïve dualism of common thought. It does this through (1) *the notion of the transsubjective (naïve realism), and* (2) *the hypothesis of 'introjection' (animism). A protest against the phrase 'internal and external experience.'*

The discussions that have largely occupied us during the last two lectures have, I trust, brought out three points. First, we found experience used in a double sense: there is the experience, the living experience, of a given individual, filled with concrete events and shaped from first to last by the paramount end of self-conservation and self-realisation. There is also experience generally — Experience with a capital E, the common empirical knowledge of the race, the result entirely of

intersubjective intercourse, systematised and formulated by means of abstract conceptions. Next, we found grounds for suspecting that dualism has arisen from misconception and ignorance as to the relation of these two senses of experience. Experience in the first sense being relegated to psychology, experience in the second remained as the sole business of natural science; and the one experience coming then to be regarded as exclusively subjective and the other as altogether objective, a clear line emerges between the two and the dualism of Mind and Nature is the result. But now, in the third place, we have found that our primary, concrete experience invariably implies *both* subjective and objective factors, and seems to involve these, not as separable and independent elements, but as organically coöperant members of one whole. If they bear this character throughout, then logical distinction of these factors is possible but not their actual dismemberment; there is duality but no dualism. To refute the dualism of ordinary scientific thought then, it is necessary to shew that the generalised or universal Experience with which it is immediately concerned has grown out of, depends upon, and is really but an extension of, our primary, individual, concrete experience; and to shew also that within experience there is always organic unity. I have tried already to prove both to be true in the particular case of space and time; arguing first, that spatial and temporal perceptions involve both subjective *and* objective factors, are not purely subjective in the sense of being wholly *a priori*, nor purely objective in the sense of presenting independent realities; and arguing further, that

the conceptions of space and time scientifically in vogue are idealised derivatives of these perceptions. We might proceed to argue in like manner concerning matter and force. But our earlier discussions of the mechanical theory have, I trust, sufficiently forestalled such detailed inquiry in these cases. In fact, we found half our work done for us when we attended only to the teaching of those physicists who have any claim to philosophical competence. They admit that the matter and force of which they treat are not in themselves perceptual realities, are not phenomena, but abstract ideal conceptions devised for the description of such. Perceptual realities at all events belong entirely to individual experiences; and descriptive conceptions plainly imply intersubjective intercourse; in other words, universal, or, as it has been called, transsubjective experience. Inasmuch, then, as we suspect the dualism of mind and matter to be grounded on the absence of clear knowledge concerning the relations of these two forms or phases of experience, it will help us most to continue our inquiry on broader lines and to omit meanwhile further detailed discussion of conceptions such as matter and force.

But first of all a *caveat* must again be entered against such terms as percepts, perceptual reality, and the like, which as the only terms in general use we have not been able altogether to avoid. The assailant of dualism is at a unique disadvantage; the very weapons he uses have been forged by the enemy, and seem designed to betray him. Our psychological terminology is perhaps the most treacherous of all. What each one immediately deals with in experience is objective reality in the most fun-

damental sense. But first it was styled a picture or impression; probably because on the retina of the percipient an optical image of the things he looks at can be seen by another. Then, when the progress of science shewed that our so-called sensory impressions cannot be literally representations, or copies, they lapsed into vicarious representations, or symbols, of the objects of universal experience. Finally came the vexed question: How does the individual or how do any number of individuals, all confined to vicarious symbols, attain to an acquaintance with the real originals assumed to lie beyond? Thought, foiled in its attempts to advance, was led to retrace its steps. At this juncture the protest of Reid occurs and, despite his faulty reconstruction, the protest in itself was sound and weighty. Of this, the revival by so many thinkers in our own day of Reid's problem is a striking proof. Two things seem certain: Experience in which conceptions figure is preceded by experience in which they do not; and in this earlier experience the distinction of percept and object does not arise. Perceptual reality is then for us only a convenient term to distinguish the present objects of the one experience from the objects of the other. What each one immediately deals with in his own experience is, I repeat, objective reality in the most fundamental sense, and we have to be incessantly on our guard lest the psychological terms we naturally use mislead us unawares.

With this caution we may now resume our inquiry. Before the stage at which experience is extended by intersubjective intercourse, can it be dismembered into two independent wholes? It may suffice to select for

consideration three distinct but related characteristics of developing experience. We may call them (1) Range in time; (2) Familiarity or expertness: (3) Intellective Synthesis. The first of these has been already to some extent anticipated in our previous discussion of time. Inasmuch as experience is always experience of process or change, an experience confined strictly to each present instant would be as much a contradiction as an experience ranging indefinitely through an empty time in which nothing happened. In one or other of these meeting extremes the matter of the physicist is placed; neither as actual subject nor as concrete object is it conceivable. Not as subject, for as inert it initiates nothing and is indifferent to everything; of its varying external circumstances it retains no trace. Not as object, because in *itself* it is unchangeable and its external changes have severally succession but no duration. Some such considerations as these were present to Leibniz when in his early essay on Abstract Motion he said, *omnis enim corpus est mens momentanea*.[1] The conception of body suggests the extreme limits between which experience proper lies. In order to such experience at all there must be an enduring present; and in order to its fuller development there must be some retentiveness or memory of the past.

It has always been a difficult problem for psychology —this hold on the past secured by memory; and few are the psychologists who have realised what a fundamental fact it is. Far too commonly it is imagined that memory is mainly a matter of retentiveness; accord-

[1] Cf. Zeller, *Geschichte der deutschen Philosophie*, p. 109.

ingly when an array of physical instances of such retentiveness can be marshalled, the mystery of memory is thought to be fairly cleared up. But we could never find a single such instance save with the help of memory, nor would they be reliable even as physical facts except on the assumption that memory is trustworthy. Nay, the bare term 'retention' itself, and all cognate terms, such as 'trace' or 'residuum,' are meaningless unless some present circumstance can be related to the past; thus they presuppose memory. The analogy of inscribed records is a favourite resort of those who strive to elucidate the nature of memory by physical imagery; we find it again and again in Locke, for example. Such an analogy is about on a par with that between the eye and a telescope — the one is a natural, the other an artificial, organ or instrument of vision; but neither will explain seeing as a psychological fact. Brain traces and written records are in the same case. Such phenomena as those of resonance, phosphorescence, hysteresis, and the like, often cited in support of the childish absurdity of 'ideagenous molecules,'[1] will carry us about as far in the explanation of memory as written materials will in the explanation of memoranda; the writer himself and what he is interested to retain are still lacking — that is all! But these are the essentials, the efficient cause and the final cause of the result. Physical analogies are here, as usual, worthless to the true psychologist, and throw no light on memory-knowledge. Recourse to them is a consequence of dualism and their ineptness so far a refutation of it. Apart

[1] Cf. Huxley, *Collected Essays*, vol. i, p. 239.

from the activity and interest of the subject there is no evidence of retentiveness, whatever be the physical intensity of the stimulus or however frequent its repetition. Nor is the so-called 'retention' in the least comparable to the unchanged persistence of an effect, or to the preservation of goods in a storehouse safe from the teeth of time. On the contrary, we only retain what we change, in other words, what we assimilate. If the old merely persisted, we should have an accumulation as fruitless as a miser's store. Or if the past merely recurred again unchanged, it would be indistinguishable from what is simply present; to be known as past, it must bear the marks of the past about it, marks which it obviously could not have had when first present. These dates, or temporal signs as they may be called, plainly bespeak that unity and solidarity of individual experience which only subjective activity and interest can bring about. What is thus dated or remembered is our own past experience; we can *remember* nothing else. In this way there arises at once our subjective or biotic time along with its concrete 'filling,' both inseparable from the individual subject to which as its own objective experience they immediately pertain. It is from this that we advance to the mediate conceptions, first of transsubjective or common time, and finally, of absolute time. Again it is from the immediately presented content of this subjective time — what each one calls 'my time' — that we proceed to range events chronologically in the common historical time, which we come to think of in dualistic fashion as independent of all subjective factors.

Here, again, then we have to expose the covert dualism that renders our psychological terminology unsuited to epistemological discussions. As we are supposed to know present objects through impressions of them, so are we said to know the past through memory-images; the process is held to be alike mediate and vicarious in both cases. On the contrary, I venture to maintain that it is equally immediate in both. The distinction of memory-image and past object only arises at the level of universal experience, when dualism first becomes possible. On the question of fact Reid seems to me to have been here also in the right and far more consistent than his more learned exponent, Hamilton, who at this point forsakes him.[1] In particular cases memory may be fallible, as in particular cases the senses may be illusory; but there is no appeal in such cases which does not rest on their general validity. So far the mediate knowledge of universal experience presupposes the immediate knowledge of individual experience. If we could never trust memory implicitly, it would be impossible ever to test it. But how could we ever trust memory implicitly if all memory-knowledge is mediate, — how could we ever know lapse of time at all if we never know it directly? It is only our extreme familiarity with the universal standpoint which hides from us the necessary priority of individual experience, *a priority* which nevertheless seems obvious on reflexion. So far then we find the duality of subject and object in the unity of experience will not resolve into an independent dualism of internal world and external world. I pass now to the second point.

[1] Cf. Reid's *Works*, Hamilton's edition, p. 339, and Appendix *B*.

Experience and familiarity, experience and expertness, are closely akin, so closely that we cannot, I think, call that experience in which there is nothing of either. To begin the exposition of experience from the standpoint of Locke's *tabula rasa*, or from that of Kant's chaotic 'manifold,' is in reality to attempt to shew how experience arises from what is not yet experience. We can discuss digestion beginning from an empty stomach but not from an empty plate, and we can continue with a stomach filled from a larder but not with one filled from a chemist's cupboards. In a word, as I urged in the last lecture, an epigenesis of experience is possible but not an abiogenesis or *generatio æquivoca*. In any actual experience the sensory presentations are not wholly strange nor the motor responses entirely inept. As in this wise experience is from the first an organic unity, so it continues in its development, when more and more things are known, and more and more things can be done.

But this advance, as regards knowledge at any rate, depends primarily, it may be said, on the repetition of like circumstances, that is, on 'the uniformity of Nature'; and this again, it may be urged, is a cardinal fact independent of all percipients. Such a view is, no doubt, part and parcel of the dualism we are seeking to refute, and will occupy us further by and by. Meanwhile, as regards individual experience, it is obvious that whatever objective uniformity there might be, it would remain unknown or meaningless save to a subject itself characterised by continuity and uniformity. After all, though we talk of uniformity of *nature*, as of some-

thing independent of us, yet it is uniformity of *experience* that we mean. It is not only idle to made suppositions about things *per se*, but indifferent what suppositions we make. Even though there were no assignable limits to the diversities existing in the absolute elements of such things and in their ultimate relations, yet a subject that could combine and select might still find its experience continuous and uniform. For, in the first place, — as I just now urged, — we can never shew how experience arises, cannot carry back our analysis till we reach a dualism of subjects *per se* and objects *per se;* and, in the second, all our assertions of identity among reals are at bottom negative, amount simply to saying that we discern no difference. Even in such a world there could be events which, though diverse in themselves, were alike in being helpful; and others, also otherwise diverse, alike in being harmful, to a given subject; whilst others were entirely neutral. Such a subject then, — possessing some measure of that selective power which in earlier lectures we have found to belong to all things living, — by seeking the helpful so that, in the experience of that subject, it occurred frequently, by avoiding the harmful so that it, in the same manner, recurred seldom, and by simply ignoring the indifferent, could secure for itself an orderly environment. For as no experience deals with ultimate elements regarded as things *per se*, so no experience deals with the totality of things. A whole crowd may watch the moonlight on a summer sea and every wave reflect it, yet each spectator sees only the one silvery path that stretches outward straight from his own feet. In individual

experience, in like manner, each has his own centre and a restricted range. These two properties — centrality and selection — are essential to the possibility of individual experience, and so far to the possibility of any universal experience which presupposes it. There seems then to be no warrant for the assumption that the uniformity of experience is a fact independent of all percipients, as dualism maintains. The uniformity of nature with which science deals, is, we must remember, entirely conceptual. It resolves itself into a scheme of general laws, connecting objects and events, themselves always more or less abstract and ideal. If we try to picture the world as a whole, in its concreteness and yet without relation to any specified percipients, we are perplexed by diversity and complication rather than impressed by uniformity. Where is there one thing that is not also many, that is a whole and not merely a part; where one event that is not also a succession of several? Relative to a specified subject, some answer may be given. To us, for example, there is meaning in saying that a dog is one thing; but if we imagine ourselves at the standpoint of his parasitic guests, it would seem as extravagant so to regard him as to many it seems extravagant to regard this planet, in which we live and thrive, as a complete organism; spite of all that the genius of Fechner has done to commend the notion to us. To us, again, the flash and crack of a discharged rifle is one event; but were our *tempo* of apprehension quickened to the pace of a gnat's, the momentary report, it has been imagined, would lengthen out into a series of varied and intermittent noises. Nay,

if that *tempo* were quickened sufficiently, even the still briefer scintillation would occupy it for ages and present we know not what variety. *Bis repetita docent*, we say; but how, with our limited span of consciousness and the infinite diversity of things, could we have any chance of two like experiences apart from that subjective interest and activity that enable us to react and to select? Surely then it is once again evident that we cannot get from dualism to experience; whether or in what sense we can get from experience to dualism remains to be seen.

It is by these repetitions then that we acquire cognitive familiarity — experience of experience, so to say — and practical facility or expertness. This implies that each new recurrence is in general an advance. A second experience of the same thing is not only not numerically, it is not qualitatively, the same experience as the first; there is this difference of further intimacy and efficiency. The thing is more clearly and distinctly known, more easily and adroitly done; and of course as the old in this way becomes familiar and mechanical, new advances are in general possible. How much of such progress lies behind any stage of experience, of which we have positive knowledge, no one can say. But as regards the advance from such stage, we *can* say that it is marked by a steadily increasing uniqueness. The more developed two individual experiences, the more truly is each one *sui generis;* 'none but itself could be its parallel.' Its objects, its acts, its memories, its aims and interests, in their concreteness are like those of no other. This is a point on which I have already

enlarged in earlier lectures, and there is no need to be detailed here; we shall have to return to it in discussing the transition to universal experience. But just now it concerns us chiefly to notice, that this increasing definiteness reveals no trace of unrelated and unrelatable elements that can only be conceived apart, but shews rather a duality in unity which we may fitly describe as an organic whole. The objects are for the subject inasmuch as they are its ends, and just so far are they properly objects. They have all the independence but also all the relativity that the term 'object' implies. But a like relative independence pertains equally to the subject. We have come upon nothing so far that can be called reality into which both factors do not enter.

We come now to intellective synthesis, under which somewhat vague phrase I propose to consider those characteristics of developing individual experience which first make intersubjective intercourse possible. Psychology distinguishes between associative and intellective synthesis; but, if what I have said of subjective selection be true, there is no synthesis without a prior differentiation due to such subjective interest and apprehension — no purely passive association of objective changes just as they occur. By intellective synthesis, however, I understand specially that which rests upon comparison, and leads to the recognition of similarity in things and events that are partly different. The comparison need not be — indeed cannot be — at first deliberate and, so to say, theoretical; it is rather suggested by practical exigencies, and here the truth of Dr. Bain's 'flash of similarity' comes in. In such ways, conation and cogni-

tion working always together, the individual subject comes to distinguish its own body or self from other bodies as not-selves, and to attribute to them also likes and dislikes, and the power to know and to do. It is obvious that the presence of other individuals of its own species within its environment, together with its peculiar interest in these, will facilitate this recognition of both as selves, and so in turn make the recognition of other sorts of selves easier. How far this identification goes it would be hard to tell, for, as Goethe has somewhere said, "Man never realises how anthropomorphic he is." At any rate, the researches of anthropologists warrant us in assuming, that when human intercourse begins there is no dualism. And now at length let us turn to this intercourse to ascertain the general characters of universal experience, and how dualism comes about.

"When ten men look at the sun or moon," said Reid, "they all see the same individual object." But not so, Hamilton replies: "the truth is that each of these persons sees a different object."[1] With these diametrically opposite statements of the two chieftains of the Scottish philosophy, we may begin our inquiry. It is obvious that they are here at different standpoints: Reid at that of universal, Hamilton at that of individual, experience. In Hamilton's sense not one of the ten sees *the* sun; in Reid's "the same individual object," which all mean, is not equivalent to the immediate experience of any one. Hamilton is right in so far as each concrete experience has its own concrete object;

[1] *Lectures on Metaphysics and Logic*, vol. ii, p. 153.

Reid in so far as common experience relates all these concrete objects to one phenomenon. It would be a vast convenience, by the way, if philosophical writers would be at some pains to distinguish these very different meanings of 'object' that here again emerge. It is mere slovenliness to call the concrete objects of individual experience phenomena; for in that experience there is nothing, as I have already urged, that answers to the distinction of appearance and reality: all here is real. 'It shines, it moves,' not 'it appears to shine, it appears to move,' would be the language of an individual percipient. The conception of the phenomenal, of course, has brought with it the conception of a further, so-called noumenal, reality beyond. How these two realities, the actual before phenomena and the ontal beyond, are related does not for the present concern us; it is enough to avoid confusing the two.

Our first question is to get clear ideas as to the relation of the ten different (actual) objects of Hamilton's statement to the one identical (phenomenal) object of Reid's. The question naturally presents itself in the form: How does the one sun become an object to ten different men? Yet the proper form rather is: How, and in what sense, do the ten come to know that the actual object of each is the same individual object for all? For except on the basis of individual experience communication is impossible. Yet obvious as this admission is, it carries consequences that are usually forgotten, so dominant has the universalistic standpoint become. Now if the several subjects L, M, N . . . could, so to say, change places and the presentations of one become

accessible in their actual entirety to the others, then it might be possible to ascertain directly how far the object of one was comparable or identical with that of another. But it is superfluous to say that this is just the most impossible thing in the world. Individuality consists precisely in this impossibility. So, when we speak of the totality of a given experience as Ego and non-Ego, we regard such totality not merely as a logical, but as an actual concrete, universe. In this wise, Leibniz, for example, conceived each of his monads as mirroring the universe from a unique standpoint of its own. Thus when in place of the Ego L we have M or N, so too in place of the non-Ego non-L we have non-M or non-N. The most, then, that L can indicate or communicate to M of any part of his own experience, is so much of it as is common to the experience of both. We may be sure the earliest intercourse fell very far short of this, and even now the maximum is probably never attained. The process apparently begins with simple indications: we point to a particular thing as this or that, and then — if it be "something more than phantasy" — each has "the sensible and true avouch of his own eyes" that such particular is numerically identical in their several experiences.[1] And even the description of this particular must, it would seem, rest ultimately on indications. We point to other particulars that we find resembling it — other shining, moving, round objects; and so, by suggesting its likeness to these, take the chance that parallel relations or com-

[1] In the case of ten hungry men and a loaf, for example, this object-lesson would be impressive.

parisons will be verified by our fellow-men. That great differences may exist undetected between the particulars of one man's experience and the corresponding particulars of another's is shewn by the facts of colour-blindness. Of these the world was ignorant till Dalton, the great chemist, appearing at his Quakers' meeting in scarlet hose, was led to investigate the anomaly. In no case, then, can the particulars of experience be communicated, whether they be objective or subjective, qualities or intensities either of sensation or of feeling. This is the kernel of truth which the sophist Gorgias tried to turn to sceptical account in his paradoxical contention that even if there were any knowledge it could not be communicated. So far as reality consists in particulars, so far it pertains to each experience for itself alone; and so far the solipsist in theory and the egoist, or the solipsist in conduct, are logically unassailable; even though the proper place to put them be, as Schopenhauer said, the madhouse. All communication begins and ends in establishing relations between these primary *realia* of the communicants; so far as this is achieved they are said to understand each other. Language, soon superseding mere gesture and exclamation, becomes the medium of such understanding, and the two mutually advance together.

Without this intersubjective intercourse mankind would remain a herd; with it they become a society. The common knowledge that results might be roughly distinguished as practical, historical, and theoretical, including under the last both science and philosophy. It is with this theoretical knowledge that we are now

directly concerned, for it is here that the problem of dualism becomes explicit and acute. Nevertheless the other forms of knowledge are worthy of remark, since each of them contributes an element to the problem. A knowledge of another's experience sets us upon doing and trying for ourselves, and thus the immediate experience of every member of a society is, in some degree, extended through that of the rest. Such advance, by ensuring greater practical efficiency and foresight, brings with it a growing sense of power to shape a plastic environment to human ends. But this sense of mastery Naturalism, as the logical outcome of dualism, declares to be illusory. It maintains that we are in reality confronted by a system of matter and law which we are impotent to control. This absolute domination of law and uniformity, which seems to contradict and confound immediate experience on its active side, is almost equally at variance with that historical knowledge which we may call non-scientific. In so calling it we are only following old usage. Thus Bacon excluded both *historia naturalis* and *historia civilis* from his *globus intellectualis* or encyclopædia; and he did so because such histories are confined to the concrete and particular. Hobbes, who also excludes them, does so on the ground that they are mere *experientia* and not *ratiocinatio*.[1] It is this opposition of experience as historical and practical to science as exclusively nomological which we shall do well to note in passing, and to which we shall have once again to return in later lectures. We have it

[1] Similarly, Schopenhauer. Cf. Windelband's Rectoratsrede, *Geschichte und Naturwissenschaft*, 1894, p. 21.

concisely and picturesquely summed up in Goethe's familiar words: —

> Grau, theurer Freund, ist alle Theorie,
> Und grün des Lebens goldner Baum.

Life is wholly an affair of the real and individual; we cannot perform abstract acts or experience abstract events; everything here has not merely general properties but a unique setting, and counts only so far as it has meaning and worth. It is not on the practical or historical side that common knowledge conflicts with individual experience, for there the reference to individual subjects is still present and essential. But intersubjective intercourse on what we may call the theoretical side leads almost inevitably to the omission of this reference; and so for the living green we have the sombre grey and Man at least "and Nature are at strife." Let us now try to see how this comes about.

It seems to depend upon three elements or conditions which are consequences of intersubjective intercourse: the notion of the transsubjective, the hypothesis of introjection, and the reification of abstractions. The meaning of this somewhat novel terminology will, I hope, become clear as we go along. We shall be mainly concerned with the first two and with the third chiefly as it is implicated in these. The term 'transsubjective'[1] has been devised to obviate the confusion of what is objective from the standpoint of universal Experience, the one individual object of Reid's ten men, with what is objective for an individual experience, the different objects of Hamilton's ten. *The*

[1] Cf. Volkelt, *Erfahrung und Denken*, p. 42.

sun as transsubjective object is not L's sun or M's sun or N's sun, — if I may so say, — but rather what is common to them all, neglecting what is peculiar to each — neglecting, in particular, that direct and immediate relation to L, M, and N severally, which constitutes for each his own non-Ego. Apart from L or M their respective non-Egos, — non-L, non-M, — are non-existent, and their respective suns in like manner. Not so *the* sun as a transsubjective object. If we ask: Since this object is not the peculiar object of any given consciousness, for what consciousness is it an object, we have at once Kant's answer: *für Bewusstsein überhaupt*, for consciousness in general. Following out this answer, we might presently see that this conceptual consciousness, — absolute consciousness we may (in this context) fairly call it — presupposes and is inseparable from the individual consciousness of immediate experience; in this respect resembling the conceptual or absolute space and time already discussed. But we want first to be clear about the rise of dualism. To that end it will be sufficient here to note that ordinary thought does not raise Kant's question. It proceeds rather in this wise. Regarding *the* sun as independent of L and M and N *severally*, it concludes that it is and remains an object, independently of them all *collectively*. Such reasoning is about on a par with maintaining that the British House of Commons is an estate of the realm independent of each individual member and that therefore it might be addressed from the throne, for instance, though there were no members. This fallacy of naïve realism is one step towards dualism; the hypothesis of introjection supplies the other.

The term 'introjection' we owe to a brilliant thinker but recently taken from us, the late Richard Avenarius of Zurich. The hypothesis to which it refers is familiar enough and as old apparently as human speech; it is substantially what Professor Tylor has called animism. But to Avenarius belongs the merit of making the epistemological bearings of this primitive doctrine clearer than they were before. The essence of introjection consists in applying to the immediate experience of my fellow-creatures conceptions which have no counterpart in my own. I find myself in direct relation with my environment and only what I find for myself can I logically assume for another. But of another, common thought and language lead me to assume not merely that his experience is distinct from mine, but that it is *in* him in the form of sensations, perceptions, and other 'internal states.' Of the sun in my environment I say there is a perception in him. Thus while my environment is an external world for me, his experience is for me an internal world in him. This is introjection. And since I am led to apply this conception to all my fellow-creatures and it is applied by all my fellow-men to me, I naturally apply it also to myself. Thus it comes about that instead of construing others' experience exactly and precisely on the lines of our own, — the duality of subject and object, — we are induced to misconstrue our own experience on the lines of a false but highly plausible assumption as to others' experience, which actually contradicts our own. To this contradiction, latent in common thought and language, we may fairly attribute the *impasse* to which the problem of external perception

has been reduced. With this contradiction and the fallacy of naïve realism just now referred to, dualism is essentially complete.

But, so long as the problem of external perception does not obtrude, the inconsistencies of these two positions, to which social thinking has led, remain latent and unheeded. Psychology and the natural sciences which work on the level of this uncritical thinking take each their own half of what — if they think about it at all — they suppose to be a consistent and complete whole. The one regarding 'the transsubjective' as a real world devoid of all subjective implications, and the other accepting introjection as a fact, they go their several ways, till in the end they have not a single term in common — not even time, which Kant imagined belonged alike to both. So complete is the dualism that when philosophy essays to heal the breach, it has no adequate language in which to express itself; for its new wine there are only the old bottles. To the plain man its teaching is a stumbling-block; to the man of science it is foolishness. Not merely are familiar words used in what seems an unusual and non-natural sense, but a position is challenged which the several sciences have long held to be impregnable. For what is true, men say, if it be not true that mind and matter are disparate realities, if 'what takes place in the mind' cannot be at once and always distinguished from 'what takes place without it.' Well, it is not unfrequently a sure sign of radical disease, when the patient maintains that he is in perfect health and wants no physician. Science and common thought are, I make bold to say, in this plight as regards dualism, when they

refuse the ministrations of philosophy. We can only prescribe reflexion; and happily the reflexion is sure sooner or later to come, and cannot in the end fail of its result. But it is the practice of too many philosophers in our day to defer this advice till the mischief has reached an advanced stage, and the difficulties of a thoroughgoing reflexion are proportionately increased. Let me refer to some remarks of Professor Ladd in illustration. In writing about the definition of psychology I had argued that we cannot at the outset accept the distinction of internal and external experience; not only because the reference to space which that distinction involves is confused, but because the distinction itself is one that psychology has to debate and explain. To this Professor Ladd replies: "On the contrary, no distinction seems, 'at the outset,' to be more clearly and promptly made than this by the reflective mind of all mankind. It is only after the professional student has introduced certain metaphysical discussions, which ought to be left to the later stages of psychology or to philosophy, that this seemingly obvious distinction becomes debateable and confused."[1] Had Professor Ladd but omitted the one word 'reflective,' we should have been completely in accord; for he would then merely have testified how deeply ingrained is the notion of introjection. Nevertheless this 'seemingly obvious' but really unsound distinction ought, according to that eminent psychologist and many beside him, to be left alone at the outset; because it is not the business of psychology to concern itself with philosophical questions. Nor is it, others add,

[1] *Psychology, Descriptive and Explanatory*, p. 3.

the business of philosophy to meddle in the affairs of the sciences. Such protests are doubtless the consequences of a just resentment on the part of science against the presumptuous extravagancies of a Schelling or a Hegel, and of a just repudiation of them on the part of a soberer philosophy. Taken with a grain of sense, there is truth in such contentions; but to admit them unreservedly is to err in the opposite extreme. This mistaken deference has perhaps done more than anything to facilitate the acceptance of the sort of agnostic monism we have already to some extent discussed. *Pœnitentia sera raro vera;* error then should be denounced and renounced as soon as it can be understood. If we leave this dualism of internal experience and external experience unexposed, till it has, so to say, consolidated and intrenched itself in two disconnected sciences; and only then invite philosophic reflexion to attempt their unification, what more natural than that it should declare them to be two aspects of the unknown and unknowable, and should maintain the science of the external side, as the more exact and orderly, to be also the more fundamental? No, if philosophy is really to unify knowledge, it must perforce protest against these factitious unities, which allow of no bond but the unknowable. Psychology, — the science most intimately related to logic and epistemology, — so far from accepting and building on this false foundation, ought rather to shew how the seeming rift has grown. As yet this particular branch of psychology, we might call it the psychology of intersubjective intercourse, has been rather neglected, and assuredly nothing will contribute more to its neglect than to accept, as Professor

Ladd does, the 'seemingly obvious' but really 'confused and debateable' distinction of internal and external experience.

But we have seen how this distinction has arisen. It helps to account for dualism, but not to justify it. It is quite possible for two errors to keep each other in countenance, and jointly to acquire a semblance of truth, which belongs to neither separately. And so it is here. When it is said that psychology is concerned only with internal experience, the external experience, with which it supposed not to deal, is transsubjective or universal Experience. But, as I have tried to shew, it is impossible to maintain that from the individualistic standpoint experience is all internal or subjective. We may, then, I venture to think, regard this confusion as sufficiently cleared up for our purpose. An important question, however, still remains as to the first of the twin errors to which we have traced dualism. To that we must next address ourselves.

LECTURE XVII

UNITY OF INDIVIDUAL AND UNIVERSAL EXPERIENCE

In what sense is the transsubjective object independent of the subject? The discussion of this question has brought out a new dualism, that of the empirical and the rational. In the end, we may say, four terms emerge — the subject and object of individual experience, and the subject and object of rational knowledge. Scientific dualism, started by Descartes, afterwards drops out the second subject.

We have now to inquire whether an 'organic unity' can be shown to exist between these. Beginning with the objects, *we find that 'content' for transsubjective experience is supplied by immediate experience. Intellectual 'forms' consist of relations between such* 'fundamenta.' *But may not new* fundamenta *emerge with the ampler parallax of universal experience? What of the categories of Unity, Substance Cause,* e.g. *? This brings us to the* subject *of such experience.*

Kant's 'originally synthetic unity of apperception' the starting-point. The shortcomings of his treatment of the categories discussed. Causality traced not to logical function but to volitional activity. In a sense Kant recognises this. Substance, however, left to logic as a dead remainder. But substances or things is a category due to the interaction of active, self-conscious subjects with their environment and to their intercourse with each other.

We conclude, then, that the subject of universal experience is one and continuous with the subject of individual experience, and that in universal experience also there is the same intimate articulation of subjective and objective factors. Experience being then one organic unity, the charge of fallacy against naïve realism stands.

Concluding remarks on dualism: the problem has been wrongly stated. Dualism, like geocentric astronomy, suffices for ordinary life; but for philosophy, a satisfactory monism is still to seek.

Naïve realism, we have seen, regards the so-called external world as independent not only of any particular subject and its experience, but of all subjects collectively and of their experience. This assumption I have called a fallacy. But, it will be said, it is only fallacious to argue that what is true of each severally is not therefore true of all collectively, when the collective whole has some property which the isolated individuals have not. Mortality, for example, is as true of every collection of men as it is of any individual man. It needs, then, to be made clear that the objects of collective experience are not as independent of humanity as they are supposed to be of the individual experient. It *may* be that the new elements that enter into collective experience entail the same implication of subject and object, and that the whole constitutes an organic unity, just as we found was the case with individual experience. Still, we ought to make sure. I have, indeed, tried to shew that this is true in the special cases of space and of time. But let us now consider in general the relations between individual experience and universal or collective experience, when both exist. This, as I have already said, is precisely the question that ordinary thought ignores when it rushes straight into dualism instead.

If we hold it true that all experience implies both subject and object, then we must find a subject for universal experience; and of such subject we must say that it is as essential to *its* objects — *the* sun, *the* earth, and the rest of what we call together nature — as the individual percipient to the immediate sensory and motor

events of its own objective continuum. What is this universal subject, and what precisely are its objects? Kant's answer, already referred to, is that it is the subject of consciousness in general, a sort of absolute consciousness intuiting conceptual objects in absolute space and time. We have, then, in all four terms — the subject and object of individual or perceptual experience, and the subject and object of universal or conceptual experience; and we have to ascertain the relation of the second pair to the first. This, I say once again, is the epistemological question which the sciences ignore. Psychology and the natural sciences together take three of the terms, both the subject and object of individual experience, but only the object of universal experience. Then regarding the two objects as disparate and the second as independent of the only subject recognised, these sciences becomes at once committed to dualism, and acquire that tendency to treat the universal objects as things *per se* which leads on to materialism. If we ask how this matter becomes known to us, we get the familiar answer: Through the senses; our sensations are partly copies, partly symbols, of it. If we ask, again, how we know this, then the puzzling problem of external perception begins. This problem British philosophy essayed to solve, taking account only of the said three terms. The rationalistic thinkers of the Continent prior to Kant had meanwhile introduced, under the name of reason, or pure thought, what we have called the second subject. The only result of that was then a new dualism, — the dualism of experience and reason in addition to the dualism of matter and

mind. For reason was regarded as independent of sensory experience, and its objects as possessing a higher, or noumenal, reality, discovered by the use of innate principles. It is this dualism that meets us with a somewhat altered face when we inquire concerning collective experience and its relation to individual experience. Yet, notwithstanding the change of face, the old contrast of reason and experience has a bearing on our question; and that in two respects. First, we have the fact that the foundations of modern naturalism were laid by Descartes, who was at once both dualist and rationalist. The mechanical theory, the corner-stone of naturalism, is due mainly to him — I say mainly, because if we examined its history more closely, we should have to credit Galileo, Kepler, and even Hobbes, with an important share in that great enterprise. But, whereas the rationalism of Descartes infused a very decided idealistic tincture into his philosophy, — witness his famous *Cogito ergo sum*, his criterion of truth, his conception of God, — modern naturalism, though it has retained and extended his mechanical theory of nature, has left all these idealistic implications aside. The rational structure remains, isolated and independent, without the reason which gave it being, and on which it ultimately depends. In the second place, the old antagonism of rationalism and empiricism interests us here, because their reconciliation was one prime motive of Kant's critical philosophy, and that philosophy helps us a long way towards an answer to our question. For in Kant's philosophy we have all our four terms, — the subject and object of individual experience, and also

the subject and object of universal or rational experience. But they are no longer severed. According to his well-known saying: "Perceptions without conceptions are blind, conceptions without perceptions are empty." In other words: If we imagine the two experiences completely sundered, the one is devoid of all generality and necessity, the other of all real content; the one alone gives only the raw material of knowledge, the other only empty form. The two subjects must be at bottom the same individual, and the two objects must be synthesised into one. Not so Descartes. Roundly stated, his doctrine reduces the individual experient to a mere automaton, while reason attains *a priori* to a knowledge of the real *per se;* and the one is entirely independent of the other. Hence, when Naturalism drops out the idealistic factors from the Cartesian scheme, we have the odd result just noted — a result which we have already, in the earlier lectures, examined, perhaps at inordinate length. We have, that is to say, the consciousness of an automaton on the one side, on the other a purely mechanical system; and we have no means of relating the two. True, this mechanical system is said to be only phenomenal, but this, as I have tried to shew, does not really mend matters so long as we are asked to recognise epiphenomena as well, and so long as the phenomena are declared wholly independent of and disparate from these. We have indeed, only the further contradiction of a phenomenon *per se*. This logically barbarous notion, and the dualism of experience and reason from which it sprang, Kant helps us to clear away, and if we follow up what

he began, we may hope to find both disappear. This will be the business of the present lecture. But let me first recapitulate.

In the preceding lecture the naïve dualism of ordinary thought and language was traced to the union of naïve realism, based on the notion of the transsubjective, with the hypothesis of introjection or animism. We have now seen further that, as scientific knowledge and philosophic reflexion advanced, this naïve dualism led on to a further dualism of the empirical and the rational, such as we find, for example, in the Cartesian philosophy and its developments. We have thus, in a manner, four terms and their relations to consider; viz. the individual subject and its sensitive experience, on the one hand, reason and its innate or *a priori* ideas on the other. Naturalism with the help of a spurious empirical psychology has got rid of reason, resolving it in common with perception into internal experience or the epiphenomenal, but retaining the mechanical scheme of the Cartesian rationalism as a universal and necessary system, a world of phenomena *per se*, prior to and independent of all this internal experience. It is this logical monstrosity, this hybrid of empiricism and dogmatism, trunk of brass and fect of miry clay, that epistemology menaces and has begun to overthrow. And Kant, *der Alles Zermalmende*, has been here the chief iconoclast. We are, however, not now directly concerned with his destructive criticism; we have rather to turn to account his reconstruction, as far as that is sound, and to carry it forward.

Let us recall once more what our problem is. Our discussions up to this point make a more precise state-

ment of it possible. The dualism we are seeking to refute is, we have seen, a consequence of intersubjective intercourse. In individual experience, taken alone, there is no such dualism, but only a duality of subject and object in one articulate whole. So much a whole indeed that, as we have seen, the tendency was to treat the objects of this experience as merely subjective modifications. Only for the new experience that intersubjective intercourse brings about was the distinction of subject and object allowed to be well founded. But if a new order of objects thus emerges, transsubjective objects in contrast to the so-called subjective objects of individual experience, we naturally ask how are these new objects related to the old, and for what subject are they objects? Is it not possible that such subject and those objects make one experience, constitute also an organic unity? Though rationalism gave in one way an affirmative answer to this question, it only did so by setting up a new dualism between reason and sense. We ask then further: Is it not possible to unite both these into one experience, while still preserving the leading characteristic of each? Not only possible, but the only possibility, is the answer of the critical philosophy; taking the marks of a purely individual experience to be concrete and particular 'positions,' and the marks of rational experience to be universal and necessary propositions.

Keeping for the present to this formulation of the question, let us inquire if such a connexion between the two subjects and the two objects can be made out. Beginning with the latter: the transsubjective, as distinct from the sensory, object is, as we have seen, always

in some measure general or abstract; in other words, conceptual. Between the lizard's immediate experience — not strictly admitting of statement — of sunshine and warm stone occurring together, and our common understanding that the sun makes the stone warm, lies, to use an instance of Kant's, this difference of perceptual and universal experience. But the second is only an elaboration, though a most important elaboration, of the first. The intellectual form must have the concrete filling of my own real experience before I can understand what the proposition 'The sun warms the stone' means. This proposition may be taken as a type of what is called a law of nature; it expresses not merely temporal coincidence but causal, and so far necessary, connexion; and it expresses this not merely as valid in my experience, but as universally valid. The content which my immediate experience contributes, taken by itself, is but an instance of that *consécution des bêtes*, which Leibniz used to distinguish from rational experience. Nevertheless without this content the universal and necessary factors in the said proposition lapse into empty form, become as incapable of yielding experience as empty dies of minting coin. The further this intellectual process extends, the more abstract the result; as, for instance, if we were to say not, The sun warms the stone, but Ethereal undulations produce molecular vibrations. Still, however far such operations extend, their results are only valid or objective provided they rest ultimately on a basis of immediate experience. It would seem, then, that as regards objects there is no discontinuity between universal and individual experi-

ence, since the intellectual form which characterises the one consists exclusively in establishing relations within the concrete real that constitutes the other. Relations necessarily presuppose *fundamenta;* and though we cannot advance to universal experience without them, there is nothing but these *fundamenta* of individual experience to advance from.

But granting all this, it may be said, it is still surely possible, nay actually the case, that the advance brings to light new *fundamenta*, realities that cannot dawn upon isolated, perceptual experience. The relations with which intersubjective intercourse begins are relations of comparison mainly, identifying the sun with other round objects, other moving objects, and so forth. But thought does more than classify; classification will not account for the categories of unity, substance, cause. The dualism of matter and mind, *res extensa* and *res cogitans*, of phenomena and epiphenomena, which could not arise for immediate experience, because of its very immediacy, may still be a necessity of thought, which the ampler parallax of mediate experience reveals. Such a position will be found expressed or implied in much of the naturalistic writing since the time of Kant.[1] This demurrer brings us to the next point in our inquiry, and there we may hope to remove it.

What of the subject of this wider whole, Kant's *Bewusstsein überhaupt* and its categories or functions? As I remarked in my lecture a week ago, Kant does not satisfactorily connect these forms of thought with the sensible content upon which they are imposed.

[1] Cf. Lange, *Geschichte des Materialismus*, 3te Aus., Bd. II, p. 163.

Even after the shock to his earlier dogmatism which the reading of Hume occasioned, he still retained a strong leaven of the old rationalism; and failed in consequence to eliminate from his system altogether the dualism of empirical and rational knowledge. But this excrescence will disappear if we only follow out consistently Kant's method of reflecting upon experience itself. We cannot begin better than he did when he made 'the originally synthetic unity of apperception the highest point from which all use of the understanding and the whole of logic depend.'[1] Not only for thought, but even for perception, this synthetic activity is fundamental and essential; so much so that, as I have already urged, we cannot resolve the humblest experience into a disconnected manifold. Again, this subjective activity is, as I have also urged, never merely or primarily cognitive. Activity devoid of all motive or impulse is no better than fate or chance; it is not spontaneity or self-activity, which is what Kant intends. But for the piecemeal fashion in which Kant was led to discuss experience he would never have severed thought from will, nor both from objects, as respectively pure thought and pure will.

Nor, had the notion of development been in Kant's day what it is now, nay, had Kant but paid more heed to Leibniz's principle of continuity, could he ever have been content to write that famous sentence concluding the introduction of his first Critique: "There are two stems of human knowledge, which perhaps may spring from a common but to us un-

[1] *Kritik der reinen Vernunft, Analytik*, § 16.

known root, viz., sensibility and understanding, objects being *given* to us by means of the former, but *thought* by means of the latter." It is a short step from such a dualism to that of epiphenomena and phenomena. And the one is as hopeless as the other. In Kant's case, the years he is supposed to have spent in finding and 'deducing' his table of categories and in devising schemata to connect them with perceptions,[1] together with the reams and reams of exposition and opposition that this strange medley of formal logic and faculty-psychology has called, and still calls forth, — all this is fair presumptive evidence of hopeless failure. And yet Kant's failure partly supplies its own remedy, in the admissions that he is driven to make and in the mediating terms he is forced to introduce. After all, though in spite of himself, it comes out clearly that sensibility or individual experience is not devoid of synthetic activity, is not purely receptive and in no respect formative. And plainly, if it were, the gradual advance up to the stage at which intersubjective intercourse can begin would be inexplicable. The brute that has not, and the child that has not yet, 'pure understanding' ought to make no progress at all. But even the preliminary, anoetic[2] or rather hyponoetic forms of synthesis, such as assimilation, association, and the like, which Kant has to call to his aid, are by themselves inadequate. The word '*Handlung*,' in his native speech, or as we might say 'handling,' used to describe an action, and again the reference to

[1] Cf. Adickes, *Kant's Systematik als systembildender Factor*, pp. 17 ff.

[2] Cf. Stout, *Analytic Psychology*, vol. i, p. 50.

the tongue in the word language, might both have suggested to Kant, and indeed to the earlier psychologists generally, a factor in experience still far too much overlooked. As Paulsen has well said: "This practical analysis and synthesis, which the hand performs on things, is repeated in the analysis and synthesis which the understanding applies to perceptions. To the tools of the hand correspond the conceptions of the understanding. . . . That active attitude of man towards perceptions which the brute allows to glide passively by, is due primarily to his possession of hands ever ready experimentally to interfere in the course of phenomena."[1] Language again, the indispensable instrument of most of our thinking, seems due first of all to emotional reactions that testify to man's livelier interest in his environment. And when, in consequence of the coöperation and communication that are in these ways possible, the spheres of individual experiences begin both to overlap and to be more definitely centred, and such categories as Substance and Cause come into play, we are not left merely to find these categories, taking formal logic as our guiding thread, holding ourselves happy to have found them all, but unable to connect them organically.

But with Kant's round dozen of categories we have little concern. His whole enterprise in this matter is unique as an instance of perverted and worse than fruitless ingenuity. What Schopenhauer said is here much to the point, "It is remarkable," he observes, "that Kant, whenever he wants an example for clearer

[1] *Einleitung in die Philosophie*, p. 423.

exposition, almost always selects the category of causality; for the simple reason that the law of causality is the actual, but also the only, form of the understanding, and the remaining eleven categories mere blind windows."[1] Certainly, Substantiality and Causality are what mainly concern us, and there is much truth in Schopenhauer's contention that Substantiality is through and through Causality. More of this, however, later on. The long and short as regards causality is, that the category of cause and effect cannot be found in any functions of thought belonging to formal logic, for this is independent of time; nor in modes of time, for these are independent of logic; nor, therefore, in any imaginary schematism of the two. But it certainly is found, and found first of all, whatever be its validity, in our own doing and suffering. It is not enough, I repeat, to recognise in imagination and kindred processes a sort of blind intellection mediating between sensibility and pure thought. Thinking is doing, and like all doing has a motive and has an end. Kant's logical Ego functioning spontaneously out of time is but a chimæra buzzing in a vacuum and feeding on second intentions; that it is the thinnest of abstractions, he himself allows.

But this defect of his first Critique Kant in some measure makes good in his second. Here we have a self-determining will, and not merely a supreme logical centre, the *ne plus ultra* of impersonality. Unfortunately, however, Kant's practical subject is as much in need of mediating forms of activity, if we are to connect indi-

[1] *Sämmtliche Werke*, Bd. ii, p. 529.

vidual with universal experience, as we have found his logical subject to be. If the consciousness of active initiation does not arise till the moral imperative *I ought* discloses the practical *I can*, there is a hopeless gulf between the individual man as merely conational and Man as rational. We cannot see how to get from the one to the other; and so failing, the rift of dualism is sure to extend. With this second dualism of Kant's — a dualism in the practical sphere — we must be content to deal in a like summary fashion. The relation of both to our main problem is too indirect to justify more. We are only concerned to find the same continuity between the subject of consciousness in general and the subject of a given concrete experience, as we have found between the classificatory concepts of the one and the percepts of the other. It may suffice then to remark that without concrete springs of action self-determination is meaningless; so far, a knowledge of Butler might have saved Kant from some mistakes. We may say generally of Kant's philosophy that it is marked by one characteristic defect of eighteenth-century thought — a want of historic sense. Such a defect was the natural, perhaps the inevitable, consequence of the state of knowledge at the time. The mathematical sciences had a tremendous start; the biological sciences hardly existed; history was held to be essentially unscientific; and a building or a town furnished the type of what a completed system of knowledge would be. Sharp divisions, line and rule, symmetry of compartments, and so forth, are the leading ideas of Kant's '*Architectonik*.' The conception of evolution has

placed the present century on a better platform; and the next, we trust, may quite outgrow the dualism of reason and experience as well as the dualism of matter and mind, both which we owe to the mathematical rationalist, Descartes. From our standpoint we have no difficulty in seeing that activity is the main feature of experience. "Conduct," said Matthew Arnold, "is three-fourths of life;" and without unduly extending the meaning of the word, we find this true of all life as far as we can clearly observe. Presentation, Feeling, Conation, are ever one inseparable whole, and advance continuously to higher and higher forms. But for the fact that psychology was in the first instance studied, not for its own sake, but in subservience to speculation, this cardinal importance of activity would not have been so long overlooked. We should not have heard so much of passive sensations and so little of active movements. It is especially interesting to find that even Kant at length — in his latest work, the posthumous treatise on the *Connexion of Physics and Metaphysics*, only recently discovered and published — came to see the fundamental character of voluntary movement. I will venture to quote one sentence: "We should not recognise the moving forces of matter, not even through experience, if we were not conscious of our own activity in ourselves exerting acts of repulsion, approximation, etc."[1] But to Maine de Biran, often called the French Kant, to Schopenhauer, and, finally, to our own British psychologists, Brown, Hamil-

[1] *Das nachgelassene Werk Immanuel Kant's: u. s. w.*, edited by A. Krause, 1888, p. 78.

ton, Bain, Spencer, is especially due the merit of seeing the paramount importance of the active side of experience. To this then primarily, and not to any merely intellectual function, we may safely refer the category of causality.

But there still remains the category of substantiality, which before all others is the stronghold of the Cartesian, nay, of all, dualism. There is certainly little or no analogy between the subject of experience and the conception of substance, as applied to matter both by Descartes and by Kant; indeed Kant, as we know, in his first Critique denies that substantiality is predicable of the conscious subject in any sense. And plainly such a view, if we must still allow material substance, does not abate the rigour of the dualism we are striving to transcend. We are not, I imagine, concerned to resuscitate the rational psychology of the Leibniz-Wolffians which Kant demolished, in order to establish the immortality of the soul on grounds which equally prove the immortality of atoms. We are content to hold — at any rate are only justified in holding — that the unity and constancy of the subject of experience are due to the nature of its activity, not to an unchangeable substratum, of which thought and will are but attributes or accidents. What, then, is the source and the validity of this conception of an unchangeable substratum as applied to things? All that we know of anything resolves ultimately into changes that it produces in other things or undergoes through them. With different things these changes are different, and so we attribute to each definite properties. And, but

that such analysis seems inexhaustible, we might arrive at length, as in thought we do arrive, at the bare position of this or that without anything to distinguish one thing from another. Into such a *caput mortuum* material substance always has, and, we may safely say, always will tend to resolve itself. We cannot with propriety call it real or actual, for real and actual, as Lotze has pointed out, are predicates, and that is just what substance can never be. The changes which constitute the whole of our direct experience of things can, then, in no way be explained by this bare potentiality of everything and actuality of nothing. Science generalises these changes into a system of laws; but an unchangeable, indeterminate substratum will not account for determinate laws of change, nor they for it. The only conception that is of any avail here is that of determinate substances or things, and this at once brings the category of causality to the fore, and enables us, instead of saying, No causality without substantiality, to say, No substantiality without causality.[1] This change of front philosophy owes to Leibniz, and has seen no reason to abandon since. A world of such determinate things, in orderly interaction, may well lead our thought forward to a Supreme Principle that maintains it all. But such an *omnitudo realitatis*, or self-subsistent Being, is the very polar opposite to matter, the equivocal substance of Descartes that only gives content to the empty extent of space; and to matter, the phenomenal substance of Kant that only adds permanence to the empty extent of time. In the

[1] Cf. Wundt's *System der Philosophie*, p. 312.

form into which science has now brought this conception of matter, if it remains the substratum of anything, it is the substratum of quantity. Descartes lays stress on the spatial, and Kant on the temporal, aspect of this quantity. "Corporeal substance," says Descartes, "when distinguished from its quantity, is confusedly conceived as incorporeal."[1] "In all change of phenomena," says Kant, "substance endures, and the quantity of it in nature is neither increased nor diminished."[2] Kant calls this conception dynamical; but as we now understand the term dynamical, matter has no title to the name. Dynamical relations require substances or things, and so imply some degree of individuation, imply number. But there is a world of difference between quantity and number. To this difference the conception of matter gives us no clue. It ought not, therefore, to surprise us to find Kant, in the course of expounding his principle of substance, slide over from the singular to the plural, without the faintest justification for the change. The same deadlock we find again in Descartes, and we have seen it also in the modern mechanical theory. We can regress from substances or things to substance; but can find no way back from substance to substances. We may conclude, therefore, that this category of substratum is not an element in experience, whether individual or universal. It answers to nothing real, but is simply a logical residuum, *τὸ ἄπειρον*. So long and so far as we can determine we have form; and form is essentially causal. The residuum at which for the

[1] *The Principles of Philosophy*, pt. ii, § 9. [2] *First Analogy.*

time we halt is matter, the determinable, but as yet, for us, undetermined.

But of a definite or real thing we may say — No substantiality without causality, and for this valid category we *can* find a source in experience. But we cannot trace it either to the subject alone, as merely cognitive, nor to the object alone, as merely 'given.' We owe it to the interaction of active subjects with their environment, and to their intercourse with each other. As experience extends in objective range, it changes in its subjective character. We advance from bare consciousness to self-consciousness, and from less reflective to more reflective forms of this. As our acquaintance with other selves extends the better we know our own self. The more we realise the permanence, individuality, efficiency, and purposiveness of self, the more the mere continua of perception and association become an ordered world of distinct things. Thus universal experience, like individual, is a growth and development, not a cut-and-dried sorting according to ready-made, hard, and fast forms. Words would be wasted in any further attempt to prove or illustrate this in detail. I will quote instead a few sentences from Dr. Caird's admirable treatise on Kant, directed against that dualism of universal and individual experience, with which Kant's thought was more or less infected. The point on which we have to insist is that "the development of the consciousness of objects cannot be separated from the development of self-consciousness." "When we consider the matter more closely," says the Master of Balliol, "we begin to see that as within and without, subject and object, are strictly correlative, so

the presence or absence of a knowledge of the one cannot be separated from a presence or absence of a knowledge of the other. . . . All ignorance of the object is ignorance of self, all development of consciousness is also a development of self-consciousness. To say that we know nothing purely *a priori*, but only gradually come to know the world as it reveals itself to us, is another way of describing the same fact, which is expressed when we say that our conscious life is the realisation in us [the gradual, progressive realisation — I take it] of a perfect intelligence."[1]

We may conclude then that the subject of universal experience is one and continuous with the subject of individual experience; that in the conceptions of universal experience there is the same mutual implication, the same intimate articulation, of subjective and objective factors. And since we have seen that the conceptions of this universal experience depend upon the perceptions of individual experience, which they elaborate by analysis and resynthesis, we conclude that experience is throughout one organic unity. If this be so, we can now substantiate our charge of fallacy against naïve realism; for the demurrer that led us to suspend it has been completely removed. The wider world of intersubjective intercourse, the transubjective world, is indeed independent of the individual percipient as such. Or, to be more exact, and to obviate a possible misconstruction on the lines of the old Sorites sophism, the difference of his presence or absence is infinitesimal. But this transubjective world

[1] *The Critical Philosophy of Kant*, vol. i, pp. 423 f.

is not independent of universal experience, but the object of that experience. But once again, I say, the subject of universal experience is not numerically distinct from the subject of individual experience; but is this same subject advanced to the level of self-consciousness, and so participating in all that is communicable, that is, in all that is intelligible, in the experience of other self-conscious subjects. Universal experience is not distinct from all subjects, but common to all intelligents, peculiar to none. We can thus imagine the world without L or M, but we cannot conceive it apart from all subjects — without *conceiving* it. But that is to bring it again into relation with subjects, or rather to leave it still as universal object. If it be true to say that apart from sight there is no colour, apart from hearing no sound, and generally apart from sense no sensible world, it is every whit as true to say that apart from intelligence there is no intelligible world. Intersubjective intercourse secures us against the solipsism into which individual experience by itself might conceivably fall, but it does not carry us beyond the wider solipsism — if I may so term it — of Kant's consciousness in general, *Bewusstsein überhaupt*. You cannot dismember percipient and percept, individual subject and concrete object, into *two* distinct and separate things: here there is only duality in unity. As little can you dismember universal, conceptual experience into an abstract logical subject *per se* on the one hand and negative conceptions of things *per se* on the other. In both cases the attempt leaves us with an indeterminate X on the one side, which we have no

right to call a subject, and on the other an indeterminate X, which has as little claim to be called an object. There is no disarticulating experience. This is the lesson we learn from Kant.

And when we think out this lesson thoroughly, we begin to see that the problem of dualism has proved intractable largely because it has been wrongly stated. There is no hindrance to the solution of a question so great as a faulty formulation at the outset. This is a truth illustrated at every turn by the whole history of human knowledge. And so with dualism. Before serious reflexion upon knowledge has begun, we are started upon a false issue by naïve dualism, the sources of which I have attempted to describe. Imagine two physicists saying: "Here is a magnet; it has contrary properties at opposite ends. Let us divide and conquer." "I will take away the south pole to my laboratory and investigate that," says the one; "and I will do my best with the north pole in mine," rejoins the other. This is what happens when psychologists propose to study internal experience, and naturalists external experience, exclusively. Our imaginary physicists when they get to work find, the one that a north pole, the other that a south pole, has turned up at the fracture of the original magnet. The psychologist in like manner finds objective elements in his internal experience; but he calls them subjective modifications, and the physicist in external experience finds subjective elements, but he calls them laws of nature. When the imaginary physicists meet again and join up the magnet, each is puzzled to know what is gone with the new pole that

he had discovered. Similarly with the psychologist and the naturalist: except that the joining up is here the serious business. All your side is subjective modification, says the psychologist, perhaps. No, all your side is laws of nature, the naturalist then replies. Or the psychologist, having treated intelligence, in sensationalist fashion, as a mere outgrowth of isolated individual experience, and the naturalist having treated universal experience as mere nature divorced from mind, they agree that the objects of the one are copies, the objects of the other originals, and then comes the riddle of their extraordinary correspondence. I know of no one who has put this point so ably as Ferrier, to my thinking far the most brilliant Scottish philosopher since Hume. I feel it would be unseemly to apologise for quoting some sentences from him. Nor is such quotation superfluous, for Ferrier, nowadays, seems but little read. "Our intercourse with the external universe," he says, "was the given whole with which we had to deal. The older philosophies divided this given whole into the external universe on the one hand, and our perception of it on the other; but they were unable to show how these two, the objective and the subjective, could again be understood to coalesce. Like magicians with but half the powers of sorcery, they had spoken the dissolving spell which severed man's mind from the universe; but they were unable to articulate the binding word which again might bring them into union. It was reserved for the speculation of a later day to utter this word. And this it did by admitting *in limine* the distinction; but,

at the same time, by showing that *each* of the divided members again resolves itself into *both* the factors, into which the original whole was separated; and that in this way the distinction undoes itself. . . . [But] unless we are able to think two things *as two* and separated from each other, it is vain and unreasonable to ask how they can become one . . . In the same way, with respect to the question in hand. There is not a subjective *and* objective before us, but there is what we find to be an indivisible subjective-objective, when we commence by regarding what we imagined to be the pure subjective, and there is what we find to be an indivisible subjective-objective also, when we commence by regarding what we imagined to be the pure objective. So that the question respecting the nature of the connexion between the subjective and the objective comes to be either this, What is the nature of the connexion between two subjective-objectives (but this is not the question to which an answer was wished), or else this, What is the nature of the connexion *between one* thing, one thing which no effort of thought can construe as really two?"[1]

But, after all, it is not enough to 'scotch' a snake; it is necessary to kill it. Dualism has been refuted many times, but it has wonderful powers of recovery. Philosophy may constrain 'common-sense,' for the nonce, to recant; but, like Galileo before the Inquisition, it still mutters its *E pur se muove*. An ominous instance that for me, you will say. For me, perhaps, it is. But it will only afford solid comfort to the dualist, provided

[1] *Philosophical Works*, vol. iii, pp. 278–284.

his persuasion of the truth of his position, like Galileo's, always becomes the more cogent the more it is examined; but that is not what we find. Philosophy admits the dualism of common language; but language has been shaped, not for theoretical, but for practical, ends. As for practical purposes, it is simplest to talk of the sun rising and setting, so, for practical purposes, it is easiest to talk of matter and mind, of internal and external experience, as distinct and separable. The use of instruments of precision is a costly and time-consuming business, and the philosophical standpoint is as cumbrous and unsuitable to ordinary affairs, and even to the departmental inquiries of the special sciences — psychology in part excepted — as the instruments of the laboratory or the observatory would be to the mechanic or the navigator. As science itself is against common ways of thinking as respects what used to be called the Newtonian philosophy, — and it took a long time before even the most reflective of mankind could be convinced that the earth did not need supporting, — so philosophy proper is against the common ways of thinking as respects dualism. But between the naïve dualism of ordinary thought and language, and the efforts of philosophy to transcend all dualism, we have this dualism of science which we have been examining. And that, as we have seen, has not only proved itself vulnerable from without, as soon as systematic reflexion upon knowledge and experience begins; but it has also proved internally more and more incoherent, as the special problems concerning the connexion of body and mind and concerning external perception have grown in

definiteness. Hence science itself, we have seen, has been driven to a species of hybrid monism, which we shall have by and by to examine somewhat further. But from what we have seen already there is small chance of that contenting us. And in saying this we touch the real difficulty. Destructive criticism is never sufficient: we look for construction as well. But, even when dualism is abandoned by reflective minds, there ensues only a struggle of diverse monisms to take its place. The agnostic monism of science, we feel, does not content us, and the idealistic, or, as I would rather say, the spiritualistic monism of certain philosophers is unacceptable to scientific speculation. Still, here again there is progress. How far we can transcend agnostic monism, how far we can establish a spiritual monism — these are the problems that remain to us. From a world of spirits to a Supreme Spirit is a possible step. So far as we succeed in solving these problems, then so far we shall have secured a basis for a Natural Theology.

PART V

SPIRITUALISTIC MONISM

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LECTURE XVIII

CAPITULATION OF AGNOSTIC MONISM

Neutral or agnostic monism tends to degenerate into materialism; but it might logically advance to idealism. If so, the teleological must be shown to underlie the mechanical. The difficulties of the mechanical view not remedied by preaching agnosticism. But on closer scrutiny such agnosticism contains admissions which lead on to spiritualism. Thus Huxley confesses (a) *that 'our one certainty is the existence of the mental world,' and* (b) *that 'the notion of necessity has a logical not a physical foundation.'*

The conception of natural law examined. — 1. *It is teleological in its origin as an organon or means of interpreting, and so controlling, Nature.* 2. *It is teleological in its character, in so far as it is a postulate or hypothesis. We here come upon the epistemological problem of Hume and Kant,* viz., *to determine the character of general propositions relating to matters of fact. The evidence of such propositions neither immediate nor logical. Hume failed to explain them by association and remained a sceptic. But he made clear to Kant an alternative which he could not himself see. For him the human mind was but "a bundle of perceptions"; though he was hopelessly at a loss to find the "principle" that unites the "bundle." This principle Kant declares to be the synthesising activity that yields self-consciousness. In this activity we are to find the source of the conception of nature as a system of unity and law.*

In the lectures immediately preceding we examined the dualism of ordinary thought, ascertained certain primitive misconceptions in which it first originated, and exposed

certain false abstractions by which it has been since maintained. But it may be said, and said truly, that all philosophies are faulty somewhere. Unless, then, we can find monism beset with fewer difficulties, dualism, which holds the field, sufficing for daily affairs and the routine of science, will surely keep it; mankind at large will be content, as before, to get along without a final philosophy. If, however, the desiderated monism is forthcoming, the practical conveniences of a dualistic phraseology will prevail against it as little as our familiar use of the language of the Ptolemaic astronomy against the new astronomy of Copernicus and Newton.

There are three leading forms of monism, viz., Materialism, Idealism, — or, as I should prefer to say, Spiritualism, — and the Neutral or Agnostic Monism now in vogue among scientific men. The first we may safely ignore: science no longer directly defends that. The last, however, seems to call for consideration, as well because of its wide acceptance, as because of its supposed merit in avoiding the absurdities of materialism and the difficulties of dualism. But this monism is scientifically popular mainly because it is still essentially naturalistic, and disparages the so-called psychical aspect as epistemologically subordinate to the physical. Thus whatever objections we have found to lie against naturalism are valid against a monism that is naturalistic. Again, this monism escapes the absurdities of the old materialism more in seeming than in fact. Whereas that was dogmatic, this is agnostic, is materialism without matter, materialism with most of its consequences, but divested of its metaphysics. For in this monism the mechanical theory is still regarded as

furnishing a concrete and complete presentment of the objective world, and as excluding all possibility of subjective interference. Matter, indeed, is resolved into the unknown and hypothetical; but spirit is not merely so resolved: even its supposed manifestations of spontaneous activity are declared illusory. Finally, this monism escapes the difficulties of dualism only by falling itself into the opposite extreme. The essential characteristic of experience we have found to be a duality in unity. As dualism is incompatible with the unity of experience, so naturalistic monism is incompatible with the duality. Subject and object cease to be coöperant factors in one process of life and experience, and lapse into concomitant aspects of a single and unknowable process which is neither life nor experience. The concave side of a curve cannot interact with its convex side, or the reflexion of a figure in a concave mirror with its reflexion in one that is convex. Nor can we say that the curve is in itself more convex than concave; or the image in one mirror truer to the original than the image in the other. So it is maintained that the Unknown and Unknowable is not more matter than mind, not more subject than object, Ego than Non-Ego. It is on this account that I have ventured to describe this monism as both agnostic and neutral. But the neutrality, as we have seen, is neither strict nor impartial. Indeed, from the nature of the case, how could it be? Allow that the ultimate essence of matter and spirit is unknown and unknowable, even then the practical question is, which of the two is better known? In raising such a question we are at once confronted by another, that is, how we are to estimate the comparative

importance of different forms or qualities of knowledge. But however we settle this preliminary but weighty question, the result is bound to affect our theories. And so the monism we are considering, preferring calculability to intelligibility, simplification to meaning, materialistic to spiritualistic terminology, leans to the materialistic side. Yet even then it is unstable, oscillating between the two positions — pronounced materialism and unmediated dualism — which it is supposed to transcend. We find it, in fact, inclining now to the one, now to the other, as the stress of each new problem determines; while the obscurity of the unknown and unknowable serves to cover its vacillations. Disregard this unknowable, or take it for what it is worth, and the net result is but a hybrid of hazy dualism and halting materialism. If dualism is unsound, there seems to be no agnostic resting-place between materialism and spiritualism.

Our whole interest in such a temporary position lies in the possibility that this labile monism may after all lapse in the opposite direction. Signs of such a change in scientific thought are by no means wanting, and it is only as we are hopeful of them that we can call agnostic monism an advance. But what does such a transition in the idealistic direction imply? Let us enter upon this inquiry just as it presents itself, from the standpoint of the new monism, that is to say. First, if it be true that the two aspects, the psychical and the physical, of a supposed Unknowable exactly correspond, though they cannot interact, then whatever be the order and connexion on the one side, there will be an identical order and connexion

on the other.[1] If the characteristics of one be teleological, so in like manner will be those of the other; if the characteristics of one be mechanical, those of the other will be mechanical too. But now, we must take it as certain at the outset — not a matter of theory but a matter of fact — that the characteristics of the side of life and mind are *prima facie* essentially teleological. At the same time it is maintained — but on theoretical grounds — that the characteristics of the physical side are ultimately and absolutely mechanical. By the fundamental position of this monism, however, both cannot be right. Either there is illusion on the one side, or the view taken of the other is logically erroneous. It is here that the need for a theory of knowledge becomes paramount. But Naturalism, regardless of this need, has straightway, and, as it begins to appear, has too hastily, decided for the first alternative. The strict mechanical necessity of the physical side is upheld, and, as a consequence, the spontaneity and purposiveness of the psychical side is declared to be illusory, a thing to be explained away. Again, as events on the physical side are of one order, mass-motions, so those on the psychical side must, it is said, be of one order — a flux of presentations or feelings; what we call thought and will can only be complexes of such feelings or presentations: the changes and complexes of the Unknown as matter-stuff on the one side are changes and complexes of the Unknown as mind-stuff on the other. But while the physical world is held to be complete in itself, there are no psychical

[1] Cf. Clifford, as quoted above, Lecture XI, pp. 13 ff.

laws that suffice either to connect individual minds together or to connect the successive 'feelings' of the same mind one with another. The mechanical series is therefore regarded as if it conditioned the seemingly teleological series, and — spite of glaring inconsistencies — mind and morals are even spoken of as collateral products of mechanism. I do not, of course, propose to weary you even by enumerating the many detailed objections we have found to these positions as real principles, but rather to discuss the general question now raised from the more formal standpoint of epistemology.

The question is: Can the teleological supplant the mechanical, or rather, be shewn to underlie it, or can it not? It is here that the naturalist, as such, is most confident, and the moralist, as such, most depressed. The one, as Huxley has told us, foresees the tide of matter and law advancing till it is coextensive with all experience; the other conceives this advance as inevitably destroying all spirit and spontaneity. At the outset one thing at least seems clear: it is utterly fatuous to imagine that mere agnosticism can relieve us from the burden of this problem; and yet it will be remembered agnosticism is what Huxley preached to all those that are oppressed by it. But, if the supremacy of the mechanical is verily knowledge, it is childish to turn to ignorance, actual or necessary, of other things, as a refuge from it. What matters what we don't know beside, if we do indeed know this, if this supremacy at any rate is certain? Or, if what we do not know does matter, is not that but another way of

saying that this mechanical supremacy is perhaps not ultimate, perhaps not absolutely certain?

The truth is that this new philosophy owes its monism to the *a priori* speculations of Spinoza, while its agnosticism is borrowed from Hume and Hume's successors. Such alien elements, the dogmatic and the sceptical, the empirical and the speculative, like oil and water, refuse permanently to blend. Only one result of such an attempted combination is foreseen and accepted: the rationalism of Descartes and Spinoza, which takes geometry as the type of knowledge, will serve to secure the supremacy of the mechanical, while the sensationalism and scepticism of Hume will suffice to discredit the teleological and spiritual. But other and unforeseen results emerge. One of these we have already noticed — the instability, I mean, which leaves this new monism oscillating between dualism and materialism. From such instability Descartes with his clearly defined substances, and Spinoza, still more, with his one supreme substance, were practically free. A second result now becomes apparent. Agnosticism proves a treacherous ally even for Naturalism, and ends by undermining its dogmatic foundations. At the same time mind, though perhaps neither completely known nor completely knowable, turns out less of a fiction than matter. The incursions into philosophy, spread over many years, of two distinguished men of science, recently removed from us, Huxley and Du Bois-Reymond — afford instructive illustrations of this 'double decomposition,' to use a chemical phrase, of its rational and its empirical components, to which agnostic monism may lead. The agnosticism,

attached primarily to the spiritual and teleological, ends by fastening on the mechanical, while the teleological and spiritual appear as the truly rational and fundamental. If we examine what Huxley says when he preaches agnosticism as delivering us from the perplexities of naturalism, we shall find, I think, some evidence of this transformation.

But for clearness' sake let us first recall some statements of his that set forth the original position. "I take it to be demonstrable," he says, "that it is utterly impossible to prove that anything whatever may not be the effect of a material and necessary cause [this conjunction of 'material and necessary' is noteworthy], and that human logic is equally incompetent to prove that any act is really spontaneous."[1] And again: "If these positions are well based, it follows that our mental conditions are simply the symbols in consciousness of the changes that take place automatically in the organism. . . . We are conscious automata, . . . but none the less parts of the great series of causes and effects, which, in unbroken continuity, compose that which is, and has been, and shall be — the sum of existence."[2] Now the meaning of this and many like statements that I have previously quoted is plain and unmistakeable. It is this: Nature, to which we entirely belong, is an unbroken continuity of necessary causes, and of these our mental conditions are simply the inefficient

[1] *Collected Essays*, vol. i, p. 158.

[2] *o.c.*, p. 244. The clauses here omitted, referring to what is termed 'the feeling we call volition,' have been discussed above. Lecture XII, p. 45.

symbols. We have no knowledge how these symbols are connected with those causes, but we are confident that volitions do not enter into this chain of causation at all. "The consciousness of this great truth," Huxley has told us, "weighs like a nightmare upon many of the best minds of these days." And small wonder if it be indeed a great truth. But now let us recall the relief from this load which agnosticism is supposed to afford us. The 'great truth' is not fatalism, because, says Huxley, "I take the conception of necessity to have a logical, and not a physical, foundation;" it is not materialism, "for I am utterly incapable of conceiving the existence of matter, if there is no mind in which to picture that existence."[1] The existence of matter is inconceivable without mind, the conception of necessity has a logical, but has no physical, foundation — this does not sound like a mere declaration of ignorance, and has, moreover, a decidedly idealistic ring. Perhaps after all there *is* substantial solace here for those alarmed by the advancing tide of matter and law. Let us then examine somewhat closer these two articles of the agnostic gospel.

It is the second of them that chiefly concerns our present inquiry; but the first is important as it clears and defines the ground of the later discussion. For if necessity is logical, not physical, has its source in mind, not its home in matter, it is desirable to begin by ascertaining the epistemology, or perhaps we ought to say the agnoiology, of these conceptions, matter and mind. This Huxley gives us in the following brief sentences of

[1] *Collected Essays*, vol. i, p. 245.

reassurance: "For, after all, what do we know of this terrible 'matter,' except as a name for the unknown and hypothetical cause of states of our own consciousness? And what do we know of that 'spirit' over whose threatened extinction by matter a great lamentation is arising . . . except that it also is a name for an unknown and hypothetical cause, or condition, of states of consciousness. In other words, matter and spirit are but names for the imaginary substrata of groups of natural phenomena."[1] We may safely take phenomena here as equivalent to states of consciousness; the context itself justifies this, and Huxley's statements elsewhere are quite explicit. Indeed, we may fairly go farther and replace 'states of consciousness' by the simpler and less ambiguous phrase, experiences. We have, then, on the one hand, experiences as our facts, and, on the other, matter and mind as unknown and hypothetical causes and as imaginary substrata of these facts. The mention here of *two* hypothetical causes, *two* imaginary substrata, does not mean that the two are alternatives; so that, if one be true and real, the other is false and unreal: it means that duality pertains essentially to our experience as a fact. So far, therefore, it is obvious there can be no fear of one factor in this duality extinguishing the other, whatever may befall the causes we assume or the substrata we imagine for them. Nevertheless, it is a gross exaggeration to say that matter and mind are simply names for the unknown and unknowable; Huxley's agnostic deliverances themselves testify to the contrary. Mind is, at any rate, the name for the subjective factor,

[1] *Collected Essays*, p. 160.

and matter the name for an objective factor in experience. In speaking of both as causes, their coöperation or interaction in experience is recognised; and calling them names for the unknown means simply that we have no experience of the subjective apart from the objective, nor of the objective apart from the subjective. To say that these mean nothing *in* experience is to treat experience itself as nothing. Again, speaking of both as substances or substrata is but to recognise the permanence in experience of both factors, and calling them imaginary is again nothing but the truism that we only know them as permanent *in* experience. To say that their permanence here is imaginary is to deny the fundamental character of experience as continuous process. Plainly, facts must precede hypotheses and fictions. Thus, in arguing really against dualism, what Huxley spite of himself so far establishes is not agnostic monism, but merely the duality in unity of experience.

And so we come to what I just now called the first article of the agnostic gospel. It is not materialism, because the existence of matter is inconceivable without mind to picture that existence. If the words had run: It is not idealism (or spiritualism) because the existence of mind is inconceivable without a physical basis, of which it is the function and collateral product, we should have been less surprised; and, on the whole, I am bound to say, such a statement would have seemed more consistent. Nevertheless, Huxley, when this question is definitely raised, quite rightly refuses to convert invariable concomitance into necessary conjunction.[1] So,

[1] Cf. *Collected Essays*, vol. ix, p. 141.

then, matter is inconceivable apart from mind, but mind is not inconceivable apart from matter. More definitely, *matter* is not essential to experience, but only a subject, and its objects or ideas. Accordingly, we find Huxley declaring "the arguments used by Descartes and Berkeley, to shew that our certain knowledge does not extend beyond states of consciousness, to be irrefragable," that "our one certainty is the existence of the mental world, and that the existence of *Kraft* and *Stoff* falls into the rank of a highly probable hypothesis."[1] And more than once he has said, "If I were obliged to choose between absolute materialism and absolute idealism I should feel compelled to accept the latter alternative."[2] The significance of this admission for our present argument lies solely in its recognition of that subjective centrality of experience, the originally synthetic unity of apperception, as Kant styled it, which we have discussed in earlier lectures. Its significance, therefore, is not impaired by any defects in the idealisms, dogmatic or problematic, of Berkeley and Descartes; for they were both essentially at one with Kant's transcendent idealism on this point. Both would have subscribed to Kant's words: "All the manifold determinations of perception have a necessary relation to the 'I think' in the subject that is conscious of them. The 'I think,' however, is an act of spontaneity that cannot possibly be due to sense." Nor, again, is the significance of this admission diminished by Huxley's contention that he is relieved from the obligation to choose by our ignorance

[1] Cf. *Collected Essays*, vol. ix, p. 130.

[2] *o.c.*, vol. vi, p. 279; vol. ix, p. 133; also vol. i, p. 172.

what matter or mind, those hypothetical and imaginary unknowns, may be in themselves. He is relieved from the obligation to choose only by the fact that he has chosen. The admission he has actually made is all we care for: we are not concerned, either with the hypothesis of dualism, that experience implies two substances, matter *per se* and mind *per se;* nor with that of neutral monism, that these two unknowns may be replaced by a single unknowable. On the basis, then, of this recognition of the active, subjective synthesis that makes every experience an owned experience, and gives it not only unity and continuity but centrality, we may now pass to the second article of Huxley's agnostic gospel.

The 'great truth' as to the advancing tide of matter and law is not fatalism, because "the notion of necessity has a logical, not a physical, foundation"; "is something illegitimately thrust into the perfectly legitimate conception of law." "For my part," says Huxley, "I utterly repudiate and anathematise the intruder." Very good; then presumably he would wish us to withdraw the term 'necessary' from the passage just now quoted, in which 'material and necessary causes' were spoken of as conceivably the only causes there are. "Fact I know, and Law I know; but what," he now asks, "is this Necessity, save an empty shadow of my own mind's throwing?" This is an odd inversion of the ordinary naturalistic positions. It reminds us at first of Kant's claim to be the Copernicus of philosophy when he maintained that objects conform to the *a priori* principles of our intelligence, not our intelligence to the independent nature of things. Necessity,

Huxley seems to say, is not physically imposed by nature on us, but psychically imposed by us on nature. But then comes the paradoxical contention that this imposition is illegitimate, since necessity is no part of the conception of law. If this contention could be sustained, the outlook would be a poor one. We should escape the Scylla of fatalism only to be lost in the Charybdis of scepticism. Either no freedom or no knowledge would be the only alternative; yet what avails freedom without knowledge or knowledge without freedom? However, further reflexion will satisfy us — as I hope presently to show — that the notion of necessity is not illegitimately, *i.e.* to say illogically, thrust into the conception of law, but is an essential part of it. Meanwhile this further concession, viz., that necessary law is wholly an ideal conception, not a physical fact, along with the idealistic basis of experience already admitted, which reduces matter to the rank of a secondary hypothesis — again therefore a conception, not a fact — these together will, I think, enable us in the end to see that the teleological, after all, underlies the mechanical; that spirit cannot be the effect of a material and necessary cause, but that necessary causes are a postulate, and matter an hypothesis, which mind has elaborated in order to render experience conceptually manageable. To this inquiry, then, we now return to pursue it on its own merits. As to the issue, it is encouraging and helpful to have found that the agnostic's proposal, to escape all further trouble about such a question by emphasising our inevitable ignorance of the self-contradictory, is based on a half-

conscious perception of the errors of dualism, and culminates in an admission incompatible with neutral monism. We may say, indeed, that agnostic monism here disposes of itself. Our one certainty is that which we have already reached in our examination of dualism, the unity in duality of experience. This I take to be the meaning of Huxley's words; "Our one certainty is the existence of the mental world." On this basis, then, let us now proceed to examine the conception of natural law.

In the first place, this conception is teleological in its origin. It is a human invention or discovery turned to account for the furtherance of human ends — as much so as the discovery of fire or the invention of the plough. Whether in enlarging his material, or in augmenting his mental, possessions, man is alike active; and his procedure in both cases is essentially the same. For both he must devise instruments and find helps. In the words of Bacon's famous aphorism: *Nec manus nuda, nec intellectus sibi permissus, multum valet; instrumentis et auxiliis res perficitur; quibus opus est, non minus ad intellectum, quam ad manum.*[1] After many attempts, through many failures, by gradual advances, has man at length secured economy and efficiency in the arts, exactness and simplicity in the sciences. Of the principles and postulates essential to the one, he is at the outset as little in actual possession, as he is of the implements and structures indispensable for the other. Nor are these necessary prerequisites discovered or revealed as existing ready-made without. Whatever the *forces* of nature may be, the

[1] *Novum Organon*, Lib. i, 2.

laws of nature are not facts, as the constant confusion of the two conceptions might lead us to suppose. Every such law was at its inception merely a hypothesis awaiting verification. Notably this was the case with one of the most impressive and wide-reaching of all natural laws — the law of universal gravitation. A mistake as to the length of a degree of latitude brought out a result incompatible with his theory, and so Newton was led to keep his speculations in abeyance for many years. And what is true of laws of nature severally is true of the conception of natural law in general: it is a hypothesis, a postulate; an epistemological condition of the possibility of scientific experience, but not itself a fact of experience. I urge this not with intent to disparage science. Sceptical arguments of that sort are really illegitimate, and rest upon a misconception of the genesis of knowledge which is poles asunder from the view I am endeavouring to maintain. If we were merely passive recipients of knowledge; if knowledge were simple 'generated' in a quasi-mechanical fashion by association, as Hume and the psychologists who follow him affirm, — then indeed there could be no talk of nature or of natural laws. On the other hand, if our earlier analysis of experience is sound, then there is no pure passivity in experience; and even the association of ideas is determined, not mechanically, but by subjective selection and interest. Thinking, at any rate, is an arduous labour, the very antithesis of amusement and relaxation; and, without thought, such universal and necessary knowledge as the conception of law implies would be unattainable. It was this view of the genesis of knowledge that Socrates

sought to express by playful allusions to the maieutic art, and Plato by his fanciful doctrine of *ἀνάμνησις*. For a process entailing such strenuous and persistent exertion there must be an adequate motive; and *that* there is in the feeling that ignorance entails helplessness and danger, whereas knowledge brings security and power. And this truth, which Bacon first realised with full consciousness of its meaning and set forth systematically, has been the prime motive of man's thinking activity throughout. In a word, self-conservation, the first law of life, is here the ultimate spring of action, and shews plainly that knowledge is teleological in its origin. But the teleological character of natural knowledge is further evinced by its originally hypothetical form. Let us now inquire farther what such form implies.

It is here that Hume is important, and especially Hume as criticised and interpreted by Kant. True, knowledge is power, it is said, and as a means to this end is primarily sought. But to be reliable it must be certain, and the only entire certainty that we possess is either particular, confined to present impressions, or formal, restricted to the relations of ideas. Neither of these will give us prescience or control in dealing with reality. Sense-particulars have reality indeed, but they have no universality; while the logical relations of ideas have universality but no reality, in other words, are in the first instance only thought, not knowledge. The extent to which such relations will hold of matters of fact remains an open question, a question in no way affected by their truth and validity as thought. This

distinction between thought and knowledge marks the modern era of philosophy. Like all great truths, it gained ground gradually. Bacon, Locke, and Leibniz contributed in their several ways towards its recognition: Bacon by his distinction between *anticipationes* and *interpretationes, naturæ;* Locke by his distinction of archetypal and ectypal ideas; Leibniz by his distinction of truths of reason and truths of fact. But Hume placed the distinction beyond dispute, once and for all, by his analysis of the conception of cause. Whatever be the defects of that great argument in other respects, in this one point it is generally acknowledged to be invulnerable. "All the objects of human reason or inquiry," says Hume, "may be naturally divided into two kinds, to wit, *Relations of Ideas* and *Matters of Fact.* Of the first kind are the sciences of Geometry, Algebra, and Arithmetic; and in short every affirmation which is either intuitively or demonstratively certain. . . . Propositions of this kind are discoverable by the mere operation of thought, without dependence on what is anywhere existent in the universe. . . . Matters of fact are not ascertained in the same manner; nor is our evidence of their truth, however great, of a like nature with the foregoing. The contrary of every matter of fact is still possible; because it can never imply a contradiction, and is conceived by the mind with the same facility and distinctness, as if ever so conformable to reality. *That the sun will not rise to-morrow* is no less intelligible a proposition, and implies no more contradiction, than the affirmation, *that it will rise.* We should in vain, therefore, attempt to demonstrate its false-

hood!"[1] So far Hume and Kant agree. Hume is even at one with Kant in recognising the *de facto* validity of general propositions relating to matters of fact, laws of nature as we now call them. But, when we ask for the ground of this validity, Hume acknowledges himself at a loss and remains a sceptic. He can only fall back upon association, which for him is but a passive and mechanical process, devoid of reason. Kant, on the other hand, appeals directly to the unity and spontaneity of intelligence, and so gives us an explanation that is essentially teleological. Strangely enough, Hume too has recourse to teleology, as in the following remarkable passage: "It is more conformable to the ordinary wisdom of nature to secure so necessary an act of the mind [viz., that "by which we infer like effects from like causes, and *vice versa*"] by some instinct or mechanical tendency, which may be infallible in its operations, may discover itself at the first appearance of life and thought, and may be independent of all the laboured deductions of the understanding. As nature has taught us the use of our limbs, without giving us the knowledge of the muscles and nerves by which they are actuated; so has she implanted in us an instinct, which carries forward the thought in a correspondent course to that which she has established among external objects."[2] One or two remarks on this instructive passage will help us forward.

In the first place, the objection just now urged against Hume's view of association must be repeated. Associa-

[1] *Enquiry concerning Human Understanding*, § iv; *Philosophical Works*, Green and Grose's edition, vol. iv, pp. 20 ff. [2] *o.c.*, p. 47.

tion is not a passive and mechanical process; even here the subject is active and selective. Not any and every impression that chances is retained and reproduced, but only such as prove impressive by being interesting. Even 'at the first appearance of life and thought' we are warranted in assuming a sort of conservation that is other than mechanical. What is wholly inert and indifferent cannot learn even from nature; but 'instinctive tendency' implies more than inertia, and excludes indifference, and so cannot be purely mechanical. With this correction we may grant the instinctive beginning of experience to which Hume here refers. — But then, in the next place, it is only a beginning; it suffices, perhaps, for what Leibniz happily called *les consécutions des bêtes*.[1] And it may be true, as Leibniz goes on to say, that three-quarters of the actions of mankind are on this level, are like the practice of medical quacks or empirics, who have no theory. But the problem is to account for theory, for the remaining quarter, in a word, for the methodical inductions of science, or rather for the principle underlying them. Mere imagination, association, or custom may suffice to explain that faulty induction by simple enumeration that Bacon denounced and exposed; but what we want to understand is the source of what he called *inductio vera*. In one of his most felicitous aphorisms Bacon, by the way, gives us a hint of the true answer, which Hume's sensationalist and atomistic psychology hid from him, but which Kant's sounder psychology — and I must add, Kant's greater singleness of mind — enabled him clearly and distinctly

[1] *Monadologie*, § 28, Erdmann's edition, p. 707.

to realize. "*Qui tractaverunt scientias*," the passage runs, "*aut empirici, aut dogmatici fuerunt. Empirici, formicæ more, congerunt tantum, et utuntur; rationales, aranearum more, telas ex se conficiunt: apis vero ratio media est, quæ materiam ex floribus horti et agri elicit; sed tamen eam propria facultate vertit et digerit.*"[1] — In the third place, even to work out his own avowedly insufficient theory, Hume has to assume the validity — both for nature and for mind — of the very conception he fails to account for. Causal inference is an act of the mind necessary for our preservation, because Nature has established a causal order among external objects. And this necessary act of the mind, again, is itself the *result* of natural, quasi-mechanical laws, viz., the laws of association, which obviously, therefore, cannot themselves be due to association. Causation is explained away by a psychological theory which all the while doubly presupposes it.

This brings us at length to the point, to Kant's point: we have to presuppose causality — or, more exactly, we have to presuppose law and order — before any experience can be explained, and before 'Universal Experience' can begin. We do not obtain the conceptions of natural law and natural uniformity by an antlike accumulation of particulars, nor are they mere cobwebs of the brain. Impressions do not generate these conceptions for us, but we apply the conceptions to them, thereby converting and transforming these crude experiences into the one 'Objective Experience' we call science. To find the ground of this rectified, systematised, universalised,

[1] *Novum Organon*, Lib. i, 95.

Experience is, we must remember, the sole problem. It is not maintained that the unassimilated experiences of the individual percipient already involve a consciousness of law, order, uniformity on his part; but simply that no mere repetition of such experience will suffice, as by a sort of *generatio æquivoca*, to bring those conceptions forth. The more frequent the repetition of impressions — interesting impressions, that is — the firmer the association, the livelier the expectation. But "why," asks Mill, "is a single instance, in some cases, sufficient for a complete induction, while in others myriads of concurring instances, without a single exception known or presumed, go such a very little way towards establishing a universal proposition? Whoever can answer this question," he truly says, "knows more of the philosophy of logic than the wisest of the ancients, and has solved the problem of induction."[1] To this weighty question Hume paid small heed; he refers to it, however, in one meagre paragraph. And there he first admits "that in some cases reflexion produces the belief without the custom"; but at once proceeds to explain away the reflexion as merely 'custom,' *i.e.* association, working "in an *oblique* and *artificial* manner."[2] But his argument, if it were as sound as it is plausible, would assuredly bring scientific induction within the range of rats and swine. For he assumes as true for the nonce the very proposition that Mill denies, viz., that myriads of concurring instances *will* suffice to establish a universal

[1] *Logic*, III, iii, *fin.*

[2] *A Treatise of Human Nature*, pt. iii, § 8, Green and Grose's edition, p. 405.

proposition; and then from such direct associations contrives to glide — in an oblique and artificial manner — to the principle of the uniformity of nature as also 'the effect of custom.' In fairness to Hume, however, we must not forget his scepticism. As Hamilton puts it: "Mr. Hume patronised the opinion that the notion of causality is the offspring of experience engendered upon custom. But those have a sorry insight into the philosophy of that great thinker who suppose that this was a dogmatic theory of his own. On the contrary, in his hands, it was a mere reduction of dogmatism [rather of empiricism] to absurdity by showing the inconsistency of its results."[1] Oddly enough, Mill, who raised the crucial question, *was* satisfied with the empirical answer and became 'the constructive Humist' that Hume himself was too profound a thinker to be. The net outcome, in a word, was for Hume purely negative — hence his persistent scepticism. But the negations of scepticism are often the prelude to positive advance; and in this instance Hume deserved the high commendations Kant repeatedly accorded to him as his own and only forerunner.

Kant's question, generally stated, was as to the epistemological character of the conception of nature as a system of laws. Up to Hume's time but two alternatives were entertained, and he clearly negatives both. The necessity implied in natural law is not discoverable by the mere operation of thought. Comparison of ideas can only reveal agreement or difference; formal logic is essentially analytical. This necessity then is not *logical.*

[1] *Lectures on Metaphysics*, vol. ii, p. 394.

Nor again is it *empirical;* for it is not given itself as matter of fact, neither is it given in the temporal or spatial continuity of matters of fact. And yet this conception of causal necessity, and, more generally, the conception of Nature as a single orderly system, unquestionably exists. This it must be remembered Hume never denies; and so, as he is clear that the origin of this conception is not 'objective,' as we say nowadays, he concludes that it must be subjective. But the only subjective source he can find is association, and this will not suffice. With all this Kant agrees. But he takes a wider and deeper view of human nature than Hume could do; and so a subjective possibility is open to him, which Hume's psychology had foreclosed. According to that "the human mind is [but] a system of different perceptions or different existences, which are linked together by the relation of cause and effect, and mutually produce, destroy, influence, and modify each other."[1] Such was his account of it in the *Treatise.* No wonder then that in an appendix to later editions he confesses: "But all my hopes vanish, when I come to explain the principles that unite our successive perceptions in our thought or consciousness. I cannot discover any theory which gives me satisfaction on this head."[2] This principle that Hume cannot find is, of course, Kant's 'originally synthetic unity of apperception.' We have already had to discuss the meaning and import of this principle in examining dualism. But we come upon it

[1] *A Treatise of Human Nature*, vol. i, p. 541 *fin.*

[2] Cf. the like admission of Mill, *Examination of Sir W. Hamilton's Philosophy*, ch. xii, *fin.*

in a new light here, where it presents itself as the source of the conception of Nature as a system of unity and law. Reserving this point for the next lecture, let us note, in conclusion, the result we have attained so far.

We are inquiring into the possibility of advancing from neutral or agnostic monism to a monism of an idealistic or spiritualistic type. We have seen Huxley, the scientific champion of agnosticism, run his ship high and dry on the idealistic side and there capitulate: "Our one certainty," he acknowledges, "is the existence of the mental world." We have, too, his admission that the conception of universal and necessary laws is ideal, an invention of the mind's own devising, not a physical fact. Lastly, we have found his forerunner and master in philosophy, David Hume, proving that this notion of universal and necessary law holding among matters of fact is neither empirically given nor logically deducible; and further, that it is psychologically inexplicable to those who deny that 'there is a spirit in man,' an active, unifying principle, the ground of self-consciousness and self-determination. In brief, taking agnostic naturalism just as it presents itself, we have found it to be really inside out. Instead of the physical world being primary and fundamental, the mental world secondary and episodic, as it supposes, the precise opposite is implicit in its own very structure. The things known, material permanence, mechanical necessity, natural law, will not account for the knower: can we find anything in the knower that will account for them, is now the question. If we do, it must be something teleological.

Already we know that man's knowledge of nature has been acquired by the sweat of his brow, as truly as any other product of civilization; how far the organon and methods of this process and the result itself are teleological we shall do well to consider further.

LECTURE XIX

NATURE AS TELEOLOGICAL

The fact of self-activity, at once volitional and intellectual, bears upon the conception of Nature in three ways; as regards its unity, its causality, its regularity.

The Unity *of Nature is the ideal counterpart of the actual unity of each individual experience. Experience itself is unifying, and beyond this immanence of experience we cannot go.*

Causality, *and the principle of causal uniformity or regularity distinguished. In discussing the former we may note three divisions of experience: (a) that of intersubjective intercourse and coöperation; (b) that of the individual and his immediate environment; (c) that of science, in which objective changes are regarded solely in relation to each other. In (a) activity and passivity are* primâ facie *certain. So in (b) as far as the subject, but not the object, is concerned. In (c) causality is only analogically assumed. Science disallows, or rather dispenses with, the analogy. In the scientific ideal individual things and definite acts have no abiding place. This position at once subordinates Nature to Mind.*

Some supposed difficulties besetting the conception of subjective activity discussed: the fact of such activity remains.

As regards Regularity — *the conception of natural law rests on the analogy of civil law. Both are contingent on the realisation of certain necessary conditions. Universal and necessary knowledge of Nature presupposes thought: here the conditions are in us and are necessary: the result is contingent on things conforming.*

If they do conform, we are entitled to say (1) *that Nature itself is in this respect teleological, and* (2) *teleological further in being consequently amenable to human ends. As it is solely by our activity that this assimilation of Nature is achieved, the result may be described as that greeting of spirit by spirit which idealism has always maintained.*

NATURE, as science regards it, may be described as a system, whose parts, be they simple, be they complex, are wholly determined by universal laws. Knowledge of these laws is an indispensable means to that subjugation and control of Nature, upon which human welfare and advance in large measure depend. So far the pursuit and acquisition of such knowledge is teleological, as truly so as other practical pursuits and achievements of human activity. But what of the conception itself of this systematic unity and invariable conformity to law? That too, I say, is teleological, is a means to the end, Knowledge itself. It is of the nature of a hypothesis or postulate, and differs from other hypotheses or postulates relating to objective reality only in the fact that it underlies them all. But it is not an axiom, which it would be absurd to deny; it is not in itself self-evident, nor is it a deduction from anything self-evident. Nor again is it so much brute fact thrust upon us willy-nilly. Experiences of a sort are possible without it; and purely formal knowledge, such as logic and arithmetic, is independent of it. In neither of these senses then is it objective. So far is this from being the case, that we can, as Kant has remarked, perfectly well imagine the variety and diversity among things to be so bewildering, as to set our powers of classification and simplification at defiance, and render any systematisation of experience impossible.[1] And as it is, the amount of empirical material actually assimilated and reduced to law is small compared with the vast amount that still remains more or less crude and intractable. Moreover, the range of

[1] Cf. *Kritik der Urtheilskraft*, Einleitung, § v.

our experience in space and time is infinitesimal compared with the extent and duration of the universe; and Stuart Mill accordingly, as is well known, declared it to be folly to affirm confidently that the law of causation is a law of the universe and prevails even in distant stellar regions. But on such a view we have no longer law but only probability, and objectively, *i.e.* so far as the universe goes, only indefinitely slight probability, as Mill himself expressly allows. Yet, quite strictly speaking, we ought not to talk even of probability, inasmuch as any working theory of probability presupposes law and uniformity. The conception of Nature then, as a system of laws, is, we must say, hypothetical; since it is not self-evident, but admits of question and awaits verification. But it is an indispensable hypothesis, or postulate; for without it scientific experience is impossible. The *ideal* of science is complete prescience, thoroughgoing explication; but comparison, observation, experiment, reasoning, in a word intellectual activity on our part, is an essential to its realisation; and the conception of the universe as a realm of law is the only assumption that can save us from wasting our labour.

But how do we know this? Why *must* we assume that Nature is a connected system of uniform laws, and whence do we derive such a conception? The answer to these questions is to be found in what we are ourselves — self-conscious, self-determining individuals. And this answer is at once simple and profound. It brings us back, as we saw in the last lecture, to Kant's 'originally synthetic unity of apperception' as "the highest point

from which all use of the understanding depends" — the principle which Hume sought for, but could not find. It behoved him to seek it, for he admitted that our successive perceptions are united in one consciousness; but he could not find it, because perceptions were for him but 'distinct existences' and "no connexions," he maintained, "among distinct existences are ever discoverable by human understanding."[1] But this means approaching experience from the wrong side; and it means also ignoring everything in experience except the several 'impressions' of sense — both oversights which we commonly find in naturalistic psychology. The convergence of radii towards a centre might seem puzzling if we set out by regarding them as merely so many distinct lines, though plain enough to one who saw them proceed from this centre itself. Such precisely are the respective positions towards the whole problem of experience and knowledge of Hume and Naturalism on the one hand, of Kant and Spiritualism on the other. True, says Kant, almost repeating Hume's words, "no connexion can ever come to us through the medium of sense. . . . Connexion (conjunctio) is a spontaneous act of consciousness, *i.e.* of intellect, . . . as distinguished from sense. . . . This act we may call by the general name of *synthesis* in order to signalise (1) the fact that we can be aware of nothing as conjoined in the object unless we have previously ourselves conjoined it, and (2) the fact that, among all our presentations, '*connexion*' is the only one that cannot be given by the object, but must be wrought solely by the subject itself, since it is an act of its own

[1] *Treatise*, vol. i, App., p. 559.

self-activity."[1] But this self-activity of the subject is not merely intellective or apperceptive; it is also — and I think we must add, it is primarily — a practical or conative activity. However much for purposes of exposition we may abstract, we cannot separate, intellection from volition. This is a truth of fundamental importance, but I have insisted upon it at length in earlier lectures and it is sufficient here to recall it. With this supplement, then, the fact of self-activity, at once volitional and intellectual, bears upon the conception of Nature in three ways — as regards its unity, as regards its causality, and as regards its regularity. Let us consider each of these in turn.

The Unity of Nature is the ideal counterpart of the actual unity of each individual experience — an ideal towards which we first advance when intersubjective intercourse and reasoning begin; and an ideal which becomes clearer and more distinct as mythology gives place to science, and, I will venture to add, as science in turn is taken up into philosophy. But it is unnecessary at this stage of our argument to enlarge upon the monistic character of experience; this we have done already with sufficient detail in discussing dualism. The one point that now concerns us is the possibility of interpreting this monism idealistically, that is to say as a spiritualism; and in this connexion the fact that all that is formative in experience is primarily due to subjective activity is of fundamental importance. However elementary or however advanced this formative process may be, the one activity complexly expressed as 'I

[1] *Analytik*, § 15.

think, I feel, I do' is implied throughout, connecting all that is presented or presentable with the one subjective centre. Things *per se*, if we could properly talk of them, might be called distinct and separate existences; for as it is certain that they are nothing *for me*, they may quite well be nothing for each other. But in so far as Nature and *possible* experience are one and the same, what holds of possible experience will hold of Nature, because it holds of experience.[1] But the subject of experience is, in one sense, always egoistic, never disinterested; for it is only because certain perceptions are my perceptions that they are perceptions at all; and in being my perceptions they have necessarily that unity which I certainly cannot get from them, and certainly do give to them. Moreover, that intellective or selective synthesis by which I make them *mine* — though I do not make them absolutely — is determined primarily by an affinity of interest, not by an affinity of 'content,' is a function of life first, not of logic. It is in this sense that we must understand Kant's bold paradox: "the intellect makes Nature, though it does not create it." It organises, but it does not originate; just as it organises, but does not originate, the sense-particulars of experience. The very first result of this process is unity; nay, experience itself is this unifying, and beyond that we cannot go. The immanence of experience is thus absolute, and it is on this ground that we say all phenomena exist in one Nature, in complete community, in one continuous space and one continuous time. We can treat such phenomena as distinct and separable relatively

[1] Cf. Kant's *Prolegomena*, § 36.

to each other, but only provided they are apperceived and thereby made constituent parts of one organic unity. Hence Kant was careful to distinguish this original, qualitative unity, as he called it, of apperception from quantitative unity as a category, which, like all categories, is derived from it.

Of these categories that of Causality is the chief; and here, as I said just now, we have to emphasise the practical side of subjective activity, which Kant in his first *Critique* leaves out of account. For this reason it is desirable to consider the source of the notion of Cause and its bearing on that of Nature prior to any discussion of Law or Regularity. Causal *laws*, no doubt, are what man is mainly concerned to know, for unless Nature were regular in *her* action there could be neither method nor purpose in ours. On the other hand, if we were simply passive, impotent to act and counteract, science would be for us no better than a gypsy fortune-teller, and knowledge would certainly not be power. Further, unless we have some concrete experience of what causation is, it seems obvious that universal laws of causation will be universal laws simply; to call them causal laws will be meaningless. But they are not simply universal laws, since their universality depends neither on laws of thought nor on pure intuition, is neither logical nor mathematical. They relate to matters of fact. We ask then for instances, and the familiar cases of sun shining and wax softening, or clay hardening, are cited. Such perceptions become causal judgments, we are told, when it is affirmed that the sun melts the wax and bakes the clay. But we may demur

to such instances. So far as the relations of the one object to the other go, they afford us no direct experience of either cause or effect: in these relations there is nothing, as Hume truly urged, but spatial and temporal proximity of sunshine and melting wax, sunshine and hardening clay. And assuredly there is nothing in the bare form of the hypothetical judgment to warrant the addition to those perceptions of the notions of activity and passivity. Yet just as surely those notions are involved in the affirmations — the sunshine melts the wax, the wax is melted by the sunshine. But how have they got there? Is it verily a case of solar myth? Precisely so, we have heard the naturalist reply: the notion of Cause like that of Substance is a fetish, and both these items of anthropomorphic superstition we eliminate. Yes, from science perhaps, but certainly not from experience. Activity and passivity, doing and undergoing, are at least *prima facie* facts of experience, connecting subjective change with objective change, and objective change with subjective change. It is *prima facie* certain that, within limits, I determine the course of external things, and that this within limits determines me. Such immediate experience of activity and passivity may be the *source* of myth, but at least it is not itself mythical. In analogy we infer a second similarity only from a first that is given independently: we cannot advance by rule of three to a second ratio save as we are sure of a first. It is not then in the relation of one objective change to another that we first find causation; that is rather where we put it, in order intellectually to assimilate or synthesise. Kant, it will be remembered, applies the notion

of analogy both to the category of substance and to that of cause; but with him in the latter case the prime relation is that of reason and consequent in logic, the analogical relation that of cause and effect in time. But in all this, I repeat, Kant is thinking only of the universality of causal laws, not at all of the specific character of the causal relation itself, as manifested in each single instance in which it occurs. As regards this character in concrete instances, our procedure is truly analogical. The activity and passivity that are, at least *prima facie*, facts of individual experience, constituting what we call the interaction of subject and environment, we transfer by parity of reasoning to what we regard as the interaction of object and object in universal experience. Such inference, of course, hangs together with that other analogy by which we regard such objects as things or individuals. Both analogies are facilitated by intersubjective intercourse; for, unless we are content to be solipsists, we are forced to regard our fellow-creatures as individual agents interacting with us, and interacting, like ourselves, with their environment.

From the point of view of our present discussion, then, we may make a threefold division of experience. We have first this experience of intersubjective intercourse. This yields a complete knowledge of what is, *prima facie*, causal efficacy. I know that my fellow-man is determined or influenced by my action, as I, in turn, am determined or influenced by his. Society, civilisation, and science itself are the result of such interaction. No doubt such communion and reciprocity is not direct; it takes place, we say, through the medium or instrumentality of matter.

But a medium or instrument is not necessarily either an agent or a patient. It may be perfect just in proportion as it is itself *inert*, neither increasing nor diminishing nor in any way modifying what is transmitted or effected through it. So regarded, the material world occupies an entirely secondary and subservient position; and in describing it as a mechanism we, in fact, only emphasise this, for what is a machine but an artificial means or contrivance to minister to doing? — We have next the experience of the individual subject in dealing, not with other subjects, but with the physical environment simply. There is here no evidence of *inter*action, such as we have where there is coöperation or conflict of man with his fellows. I only know that a certain change in the environment answers to my voluntary doing or activity, and a certain other change again to my involuntary doing or passivity. But I cannot perceive that, in the cases in which I act, my environment suffers, nor *vice versa;* if I infer these, I do so by assimilating the physical environment to myself or to the social environment, as primitive man does when he personifies sun and moon, winds and streams, fire and pestilence. — Lastly, we have the universal experience of science, in which objective changes are regarded solely in relation to each other. Here there is no direct evidence of action at all: there is just the fact of change, nothing else is directly discernible. The repeated coexistences and successions we observe among these objects confirm the anthropomorphic interpretation of them as individual things interacting after the analogy of subjects. But in reality we discover nothing but recurring conjunctions of qualities and recurring

sequences of events. Moreover, the analogy which would lead us to treat such objects as individuals would require us further to assume a medium for their interaction. The environing medium of such hypothetical subjects, too, can, of course, be again resolved into hypothetical subjects of a lower order interacting in an outstanding medium, and so on indefinitely. In point of fact, common thought and language never relinquish this intersubjective analogy so long as they refer to changes as definite at all. Scientific thought, on the other hand, strenuously disavows it; though implications of it still linger in the language of science till that takes the form of equations. Meanwhile, science devises methods and elaborates conceptions, by which to resolve those variegated uniformities of coexistence and succession, from which it sets out, into one continuous and unchangeable content in space and one continuous and unalterable process in time. But neither space nor matter, neither time nor motion, affords any place for causal activity in the only form of it of which we have any immediate knowledge. Hence it behoves us to realise, what most expositions of causation ignore or deny — I mean, that causation and causal uniformity are entirely distinct. An efficient cause is not necessarily uniform in its action, and uniformity of sequence does not directly imply such causal intervention.

Within the scientific scheme, then, individual things and definite acts find no abiding-place. The whole is one thing and the procession of its changes one continuous event. Such is Nature, and the course of Nature as Naturalism conceives it. But, from the way in which we have come upon this conception, we see clearly that effi-

cient causes are not in strictness eliminated from it: the strict truth is rather that they never enter into it. There is nothing in it, therefore, that can possibly discredit that *prima facie* interaction of individual minds, of which the whole social fabric is a proof. Nor, again, is there anything that can possibly discredit that *rapport*, alternately predominantly passive and predominantly active, of each individual subject with its own environment, on which in turn intersubjective intercourse and combination depend. Such a conception of Nature, I say, cannot possibly discredit these divisions of experience; for, in the first place, it leaves them entirely aside. The conception of efficient cause lies beyond its bounds: it recognises law, orderly sequence of events; but it neither asserts nor denies what we know as activity and passivity. And in the next place, the conception of Nature, so limited, cannot discredit our experience of activity and passivity, for the very existence of this conception presupposes both; first, inasmuch as it is but a formula or descriptive scheme, summarising a common objective factor of universal experience; and further inasmuch as, in being a formula or scheme at all, it *is* primarily — whatever validity it may have — but an ideal intellectually elaborated. And plainly, as we have seen, objects without subjects are nonsense, intellectual constructions without intellect impossible, and intellect without synthetic activity a nonentity.

Nevertheless I have spoken of all subjective activity only as *prima facie* such. I did so, because this at least is allowed generally and is sufficient to discriminate experience in the concrete from the abstract scheme of science; and because, further, it was desirable to

avoid any semblance of dogmatism. Still we must admit that, if the reality of such activity can be effectually challenged, there is an end of spiritualistic monism. But our discussion shews, I think, that at any rate this reality cannot be impugned from the side of the natural sciences. They can only say we do not find it, and could make nothing of it if we did: it does not belong to us. Beside this negative answer we have placed the indirect argument, that the existence of the sciences themselves becomes inexplicable, if the search for truth, the refutation of error, the labours of observation, experiment, and computation, were themselves part and parcel of the one course of Nature within which, it is said, no spontaneity is found. The hopeless inconsistencies of such a position were exposed in our earlier examination of the conscious automaton theory; and its actual inversion of the true place of science in experience we have now seen. The only ground, then, for misgiving lies in the alleged inconceivability of subjective activity. Unquestionably there is a bewildering diversity of opinion among psychologists on this point, which, I fear, we cannot even attempt to unravel. But, happily, it is not a question of conceivability, but of fact. The conception of a very simple fact may be a very complex conception: indeed one might very plausibly maintain that such an inverse relation is rather the rule than the exception; that generally most intellectual work is involved in the satisfactory determination and definition of the most elementary facts, and accordingly that it is only as we advance farther synthetically that we can regress farther analyti-

cally. Thus the psychologists know better what they mean by perception than what they mean by sensation; and the physicist is clearer about metals than he is about matter.

But I would urge that we need not merely to distinguish between activity and the conception of activity, but to distinguish also between activity and the perception of it. When we talk of perceiving that we are active we really imply introspection, even perhaps retrospection: in a word, we are at the level of self-consciousness or reflective consciousness; and I presume no one will maintain that consciousness begins, or always remains, at this level. Many of those who complain that activity is inconceivable, shew by their arguments that what they look for are details of how it is done. Like the distracted centipede in the fable, puzzling how it ran, they ask, What exactly do I do when I do? How can I set about doing, unless I know how? How can I be active, if the content and conditions of activity are not clear to me? Thus Mr. Bradley asks, "What is the content of activity as it appears to the soul at first?"[1] He promises also to be duly grateful to any one who will direct him 'to an experimental inquiry' into its particular conditions! — We are of course continually endeavouring to make apparently simple processes of so-called transitive action distinct, by resolving them into complex processes that involve conspiring circumstances and intermediate links. To imagine any such method applicable to subjective activity is to assimilate mental action to so-called physical action, the

[1] *Appearance and Reality*, second edition, pp. 604, 605.

known to the unknown, the primitive to the derivative, the fact to the fiction. And as the continuity of space and time, because it allows, nay compels, an indefinite regress, prevents the physicist's inquiry from ever terminating, so the like end for like reasons is sure to befall the experimental inquiries of psychologists who set out by regarding activity as an 'appearance,' the conditions of which are to be found among other 'appearances.' It is not surprising, therefore, that those who have adopted such methods soon confidently assert that conscious activity is an illusion, due to certain combinations and successions of sensations.[1] And so is reached that thoroughgoing naturalistic phenomenalism or agnostic nihilism, which in completing itself refutes itself.

The relation of subject and object is not only for experience an indissoluble relation, but it is an incommutable one. We cannot treat the subjective as we do the objective and form an abstract scheme, a statics and dynamics, of spirit in Herbartian fashion. Activity is of the essence of the relation though it does not make it, and — giving the wide meaning to apperception that is nowadays sometimes given to it — we may say with Kant that among all our presentations this is "the only one that cannot be given by the object, but must be wrought solely by the subject itself, since it is an act of its own self-activity." If we ask for the conditions of this activity, we must transcend experience to get them. There would be little point in saying that the subject is a condition, for it only *is*, as it is active; nor that

[1] Cf. my paper, '*Modern*' *Psychology*, *Mind*, 1893, N.S., vol. ii, pp. 75 ff.

objects are a condition, for they again only are verily objects, as they are appereeived. As Lotze very pertinently observes: "We cannot go on indefinitely requiring intermediary machinery . . . at some point or other the chain of intermediaries must consist of simple members connected together *immediately* and not requiring something else to hold them together. . . . All attempts to explain still further these most simple elements of action and recurrence, to elucidate them by shewing the way in which they come to pass, must invariably fail; but they fail not on account of the imperfection of our knowledge, but because the very existence of what they erroneously seek is impossible."[1] This immediacy, it seems to me, we have in experience, in the activity of cognition and volition. Strangely enough, those who have such compunction about admitting mental activity regard mental passivity as transparent fact; and yet a very little reflexion might convince them that passivity involves activity. The scientific scheme accordingly, which eliminates activity, equally eliminates passivity, or more exactly — as we have just seen — the one conception enters into it as little as the other. Inertia means not merely inactivity, but also impassivity. A body, as the physicist regards it, can do nothing and can suffer nothing. The changes, which at first we say it undergoes, resolve into motions of the aggregate of which we say it consists; and such resolution has no assignable limit short of points in space and instants in time. Changes within a body, defined by its qualities, eventually become changes between punctual something-

[1] *Microcosmus*, Eng. trans., vol. ii, p. 620.

nesses defined only by quantity. These physical points themselves, again, are strictly indifferent, devoid alike of faculty and of capacity, neither endeavouring to change nor resisting change, but incapable of it. And now *per contra*, it must be urged that we who *experience* change are parties to it, indifferent only to the uninteresting, surprised by the unexpected, but attentive to all that can hinder or help, feeling constraint only because conscious of freedom and bent on progress.

As regards Causality then, as we understand it in our own immediate experience and in all human affairs, we find it indeed excluded from the scientific realm of Nature, but not thereby attainted or even impeached in its native domain. That Naturalism nevertheless should regard the whole notion of efficiency as extirpated, root and branch, is but a consequence of the unwarrantable assumption that the realm of Nature is primary, independent, and complete in itself. But the truth, I trust, is becoming ever clearer to us that such a phenomenal world *per se* is a hopeless contradiction, that Nature, as we conceive it, is neither primary, nor independent and complete in itself; that it is, on the contrary, merely an abstract scheme; and that, as such, it necessarily presupposes intellectual constructiveness, and motives to sustain the labour that such construction entails. Epistemological inquiries, in a word, completely reverse the situation, which Naturalism, without condescending to such inquiries, simply takes for granted. Mind is not the impotent shadow of Nature as thus shaped forth, but this shaping is itself the work of mind. At this point many questions present themselves which might

tempt us at once to press our advantage over Naturalism. But it will be really wiser to defer them till we have examined this shaping process itself. This constitutes the last of my three points — the *regularity* of Nature as postulated by mind.

A glance at the history of science, more particularly at the development of those sciences which have advanced the farthest towards the scientific ideal, would disclose a curious inversion in the positions occupied by the notions of cause and of law. The more substantial causes fall out of sight, the more universal laws take on their *rôle;* and, presently, they become hypostatized as 'self-existent laws'; they operate unchecked, they reign supreme, 'binding nature fast in fate.' Nevertheless by this substitution science supposes that human experience emerges from the anthropomorphic or mythical dawn with its metaphysical shadows, and enters the clear noonday of positive Knowledge. "Fact I know, and Law I know," says Huxley. I have now to urge that this jubilation is premature, that we do *not* know Law, in the sense in which we know fact. If we do not find causes among our facts, so neither do we find laws among them; if the conception of active causes is anthropomorphic, so equally is that of universal laws. At the level of individual experience we may perceive facts, but we do not as yet conceive of laws that determine them. This conception is the outcome of inter-subjective intercourse, of social coöperation; for society is impossible without some government, and is more perfect, the more law and order are assured and stable. Now we know that pre-scientific man assumed the

prevalence of a divine law and order in Nature analogous to that existing among men. We know, too, that this assumption was at least the origin of the conception of scientific law. Such an assumption may be called natural superstition, religious credulity, or spiritual instinct; but at least it is neither incontestable fact nor logical necessity. How far is the final conception of scientific law of a different character?

Though the human mind, human society, and human knowledge have developed continuously and *pari passu*, yet we can deal with this question most effectively from the reflective standpoint taken by Kant; that is by assuming the human mind to be what it now is, and real knowledge still to be acquired. We then ask how is such real knowledge — universal, scientific experience — possible? So, assuming the individual mind to be what it now is and society still waiting to be founded, we may ask how is society possible? The answers to these questions are strikingly alike, though that to the last be the more obvious of the two. We read that after the flood "the whole earth was of one language and of one speech . . . and they said one to another, Go to, let us make brick and . . . let us build us a city and a tower. . . . And the Lord said, Behold they are one people and they have one language; and this is what they begin to do: and now nothing will be withholden from them, which they purpose to do. Go to, let us go down and there confound their language, that they may not understand one another's speech. . . . So they left off to build the city." Here the conditions of the possibility of society are clearly implied; when a common under-

standing and a common purpose exist, society is possible, when they cease, any existing society is at an end. It is not enough that each man has understanding and purpose, but there must be common understanding and common purpose before there can be one people. A like accord between thinking and being is the condition without which knowledge is impossible. Knowledge no doubt is thought before everything; but it is also more; thought is not directly knowledge, but only indirectly, *i.e.*, — as Kant says in one bold passage, — "by referring to something purely contingent, namely *possible experience*."[1] By possible experience here we are to understand the scientific ideal of orderly and systematic knowledge, in which every item has its place in virtue of universal and necessary laws. Such an ideal in itself is 'something purely contingent': it may prove to be valid and it may cease to be so. But the *conditions* of this possibility are epistemologically not contingent but necessary. In this sense our ideal is hypothetical, it is a consequent of the conditions and *those conditions are in us*, who know, not in the things to be known. Will the things conform, will they be intelligible? As with the social compact, we can only trust and try; it must be this way, if at all: the conditions are necessary, actual realisation is contingent; in this wise the whole notion of universal and necessary laws of Nature is, then, essentially a postulate. To quote Kant again: "It is not a dogma . . . because it has this peculiarity that it first renders its own proof, viz., experience, possible; and has always to be presupposed for the sake of experience."

[1] *Kritik der reinen Vernunft*, 1te Aus., p. 737.

Man may be very helpless, but at least he makes this demand, and looks to its fulfilment to give him prescience and power. And it has been fulfilled, and he has power and prescience accordingly. Nevertheless, passing strange though it be, those who have done most to achieve this result would fain persuade us that it is no achievement, and that man is as powerless over against the Nature whose laws he conceives, as wax under the stamp by which it is impressed. It is against this view that I urge the analogy between civil law and natural law, and the certain fact that the conception of the latter is derived from the former. If man had never made laws he could never know law, and if he were not a free agent he could neither make laws nor obey them. How absurd it would be to argue, that in constituting a commonwealth in order to obtain greater freedom and security, men thereby become slaves, because as citizens they can no longer each one do whatever is right in his own eyes. Equally absurd is it to argue that, in postulating regularity in Nature as the one ground of rational experience, we are deprived of all power and initiative, because in a system of universal and necessary law nothing can be arbitrary and there can be no gaps. If the conception of mechanism enables us to summarise details that would otherwise bewilder us, this cannot possibly nullify our independence, reduce *us* to parts of the machine, and elevate *that* into an absolute fate. The very fact that it is our conception, that we devised it and use it, see its imperfections and amend them, shews that we are outside it and above it: its *a priori* condition and not its helpless consequence. In a word, con-

cisely to express the scope of that regularity which science postulates, we must say as Kant has done,[1] not only *In mundo non datur casus*, but also *In mundo non datur fatum*. Nothing happens by blind chance, and also nothing happens by blind necessity. The necessity of natural law is always 'a conditional, and consequently intelligible, necessity.' Moreover, this intelligible, or hypothetical, necessity, as Kant also calls it, applies — as he is careful to point out — not to the existence of things, but only to their relations, which obviously presuppose them. In jural affairs, the source, we must ever remember, of this analogy of natural regularity, we might say whatever happens is determined by law so far as there is either conformity to statute or submission to penalty. But here, where law has its strict meaning, we are aware that it would be nonsense to talk of it as self-existent or self-executive. "Just as impossible is it to assume," borrowing the words of Lotze, "that first there could be as absolute *Prius*, a kingdom of forms necessary in themselves, a sort of immemorial Fate; and then that there should afterwards be, however created, a world subjected to the constraint of these laws in order to give reality to just whatever their limitations might permit. Rather it is the real alone that is and through its being produces the semblance of a necessity preceding it, much as the living body shapes within itself the skeleton, round about which it seems to have grown."[2]

Let me now try to gather up in a sentence or two the results up to this point of our discussion of Natural

[1] Cf. the concluding remarks on the third Postulate of Experience.

[2] *Metaphysik*, 1879, § 88 *fin.*

Law, so far, at least, as is necessary to make clear the next step in our argument. That argument is that the material and mechanical is not fundamental, but that the teleological and spiritual underlie it and are presupposed by it. So far we have mainly considered the process, and analysed the conception, of natural knowledge. We have seen that the process is teleological in its origin, since it is prompted and sustained by practical motives. Also that the conception of natural law is teleological in its character, first inasmuch as it is hypothetical, and every hypothesis a means to an end, a theoretical organon that may or may not work; secondly and more especially, inasmuch as the hypothesis is that Nature will conform to the conditions of our intelligence. It has been needful to exhibit at length, and to emphasise, the fact that these conditions do emanate from us; needful to explain and maintain the daring position of Kant that "the intellect makes Nature, though it does not create it." We have traced to this source the unity and the regularity of the system of Nature, and have seen that the causal efficiency, with which positive science can dispense, so long as it merely describes and computes, remains, and remains necessarily, the unassailable possession of Mind. Of course, let me parenthetically observe, the standpoint of our discussion has been that of the duality of subject and object and implies only such independence as that duality involves: the disparateness of dualism with its mind *per se* and matter *per se* we claim to have transcended. We have then this result: It being in general granted that our con-

ception of the unity and regularity of Nature is entitled to the name of knowledge — being ever confirmed, never falsified, by experience — we are now equally entitled to say that this unity and regularity of Nature proves that *Nature itself* is teleological, and *that* in two respects: (1) it is conformable to human intelligence and (2), in consequence, it is amenable to human ends. Such is the new step in our argument, and it contains all that is essential to complete it.

A word or two may, I trust, suffice to make its bearing clear. In the first point mentioned we find implied that essential oneness of thought and being, that recognition of the intelligible by intelligence, that greeting of spirit by spirit, for which idealists have always contended. I do not propose to dilate upon this; it is more germane to the discussion I must soon bring to a close to insist still upon what is essential to every true idealism or spiritualism, — the spontaneous activity of the greeting intelligence. This granted, the rest soon follows; while by ignoring this first and denying it finally, Naturalism has brought upon us 'that nightmare of advancing tide of matter and tightening grasp of law,' which Agnosticism is helpless to dispel. Of the bare relation of subject and object as common to all forms and phases of experience nothing can be said; by no means can we get back of this; indeed, strictly speaking, we cannot get so far back. We cannot know experience as absolutely beginning but only as in process, and here subjective spontaneity as selecting and connecting at once asserts itself. If we try to conceive an objective process apart from this, we picture a kaleidoscopic

succession of numberless elements in numberless combinations but devoid of any fixity, any connexion, or any progress. The more clearly we succeed in mentally depicting such 'mind-stuff' or 'matter-stuff' in its nakedness, — it is indifferent which we call it, — the more hopeless and absurd will appear the emergence therefrom of a living, feeling Ego and a known non-Ego; albeit such a *generatio æquivoca* of experience is all that Naturalism can logically offer us. If, as Kant does, we regard experience as starting with such an indefinite manifold as its objective complement, we must hasten to add, that the start is only made when this matter of experience is shaped and informed by the subject conscious of it and interested in it. Now the point on which I have to insist is this: not only is subjective synthesis indispensable before experience can really begin; but it is only by means of this synthesis, and the conative activity by which it is prompted and sustained, that experience can advance and unfold. No doubt in all such advance there is a constant reciprocity, if I may so say, between subject and object. But my contention is that to the subject belongs the lead and initiative throughout, and that, as experience developes, this subject shews an ever increasing activity and supremacy. Association is freer than sensation and entails more voluntary effort; thought is freer than both, entailing more voluntary effort still. Things need not conform to our thinking as the existence of error shews: when they do conform — however this is brought about — we call them intelligible, describe them as, in content or essence, ideal.

No doubt truth is reached by a series of approximations, but to find it we must seek it, and the main clue is our own nature. A rude anthropomorphism gives us our first bearings, and every advance in knowledge of the Not-self is a further self-revealing. With this clearer self-consciousness we judge the world more adequately, employ truer and more perfect categories. But all through it is a process of assimilating the non-Ego to the Ego, not the Ego to the non-Ego; and therefore self-relisation is the sole way to advance. The most potent of all means of self-realisation is human society; "as iron sharpeneth iron so the countenance of man his fellow." Here first we transcend the narrow limits of individual experience, confined to perception, reminiscence, and expectation. Discourse makes us logical; we ask questions, need convincing, and so we reason; for universal experience consists from the first wholly of thoughts, as it necessarily must, since only thoughts admit of communication. But all constructive thinking, if we consider its content and not merely its form, consists in assimilating. "The resolution of mystery," as Dr. Bain has somewhere said, "is found in assimilation, identity, fraternity." The ultimate paradigm, if I may so say, for this process we have in our own self-consciousness, or rather in what we find common to all our self-consciousnesses and call reason. This is the truth embodied in Kant's transcendental unity of apperception. It is shadowed forth, however perverted by its author, in the *Homo mensura* doctrine of Protagoras, and in the saying of Aristotle *τὸ ὅμοιον τῳ ὁμοίῳ γιγνώσκεσθαι*;

indeed in one form or other it is a truth everywhere apparent in the course of philosophy. In a sense, then, we are always anthropomorphic. According to Naturalism the myths and cosmogonies of early thought are purely subjective, while the laws of Nature that refute them are wholly objective. But there is no such chasm between them. In Baconian language both are an *anticipatio mentis* and both are an *interpretatio Naturæ*. It is solely through obstinate questionings of reason, strengthened and clarified by the effort, that the truer interpretation has been reached; and its success, so far from justifying any dualism of subjective and objective, should only assure an unbiassed and reflective mind that Nature and Man are one in being rational.

LECTURE XX

SPIRITUALISTIC MONISM

Laws of Nature used in two senses: (a) as implying substantial causes; (b) as implying only constant relations. Does the substitution of the latter for the former enable positive science to clear itself of all anthropomorphic taint? No, for (1) *its method and assumptions prove it to be a human instrument;* (2) *it shows that things are ordered by measure and number, but not what they are themselves. Subjects with intrinsic qualities, and causally efficient, are facts of experience prior to and independent of it. It must come to terms with these when challenged. We say then: Either it is itself intelligent or there is intelligence beyond it. Either it is itself causally efficient or there is a causal agent behind it. But for an answer to these questions Naturalism refers us to Agnosticism. And Agnosticism again betrays it.*

Mr. Herbert Spencer's answer examined. A First Cause is "a necessary datum of consciousness, but cannot in any manner or degree be known in the strict sense of knowing." Nevertheless, his Unknowable turns out to be "the same Power which in ourselves wells up under the form of consciousness."

What Mr. Spencer means by 'knowing in the strict sense.' The Kantian distinction of determinant, and reflective, judgment brought to bear.

The agnostic use of 'Phenomenon' criticised. Appearances do not veil reality.

As a further objection to a spiritualistic interpretation of Nature, it is said that there can be no mind behind it, for it is never interfered with. This objection due to a confusion easily exposed.

Moreover, when we divest ourselves of the scientific bias, and contemplate the world in its historical concreteness, we can see the true reality to be not a mechanism but a Realm of Ends.

NATURALISM takes for granted, as we have seen, that, when it has substituted for the conception of causal agents that of universal laws, it has cleared itself of the anthropomorphic taint, in other words of all spiritual implications, and become pure positive, objective, science. That the conception of law is primarily and properly a jural conception, implying a sovereign power, cannot be denied, nor yet that in its first application to Nature a Divine Lawgiver was everywhere and always assumed. But all this, of course, is anthropomorphic. In the last lecture the question was raised whether the scientific form of this conception is essentially of a different character; in the course of a general discussion of the nature of knowledge, it was answered in the negative. I propose now to return to this question and to deal with it in a more special way.

We find laws of Nature used in two very different senses by scientific writers. Sometimes such laws are spoken of as self-existent and as independent of the phenomena which they are said to govern and which of necessity conform to them. But this language is only defensible on one of two suppositions: either the so-called self-existent laws are themselves causal agents and phenomena the result of their interaction; or by a metonymy, such as we commonly employ in speaking of civil law, the laws are said to be and do, what the sovereign executive really is and does. And we find scientific language that favours now one, now the other, of these alternatives: the former in speaking of forces along with laws — gravitation, cohesion, electricity, for

instance; the latter in referring all these laws collectively to Nature as *her* laws. Nevertheless, the thoroughgoing naturalist, as we well know, will not defend this usage of law; but, casting it off as the last rags of a creed outworn, thinks he has freed himself from all the ontological trammels that such terms as force or cause or nature involve. He claims to use law in quite another sense. Laws of Nature are for him only uniformities of coexistence and succession. Orderly relation of the parts of a whole is here the outcome. But if we pitch upon any concrete thing or fact as possibly one of these parts, it is straightway itself resolved into coexistences and successions: indeed so long as we can single out a definite 'this' or 'that' the analytic process continues. If we ask of what sort are the relations, then attractions, repulsions, affinities, influences, are discarded phrases: activity and passivity are anthropomorphic, metaphysical. The relations are ultimately related motions, that is the most that can be safely said. We have, then, an infinity of meeting-points or starting-points of related motions, motions so related that the whole is one. As the analysis never rests till everything intrinsic is resolved into relations of elements external to each other, we may fairly say each element is constituted solely by its external relations to all the others. True, the element in such a case becomes for any clear thinking a pure nothing; for it is as impossible to get the shadowiest of 'its' out of mere relations as to get quantity by any multiplication of mere coefficients when your concrete term has vanished. But waiving this, the laws of Nature only

state the relations, they do not make them. How, then, are the relations established or maintained; how do these elements, which are on, or over, the verge of nonentity, keep up this wondrous *rapport?* Certain physicists are fond of talking of the mazy dance of molecules; the ancient astronomers, too, imagined that the planets had souls which steered their courses. Such concerted action through mutual understanding is indeed the only form of *rapport* that is clear to us; but even concerted action on such a scale is inconceivable. Moreover, the concerted actions that we know presuppose a medium of communication; if that were excluded we should have to fall back on 'telepathy' or, as the physicist calls it, action at a distance. And even then there would come the difficulty that these elements we are supposing to act in concert, are not allowed to act at all! Nevertheless, with extreme inconsequence, but to obviate these difficulties, the physicist postulates, not a medium of communication, but a medium, of which all his elements are motions and by which strict continuity of motion is secured. This commits him to infinity in three directions. First, his ether must be infinite in extent; for gravitation, cohesion, and the like, which it mediates for its contents, are unavailing to give it bounds or form, unless there be another ether to mediate in like manner for it. On the other hand, it is infinite in divisibility since it is absolutely continuous; in every smallest part of it, therefore, there is an infinity of elements, in other words, no elements at all. Finally, though every part of it can *be* moved, no part can move itself; the motion therefore, apart from catastrophes, can never have

begun and can never end. Perhaps I ought to apologise for this brief restatement of what was discussed so fully in the first half-dozen lectures. But there we were content to take it for what it purported to be — an objective presentment of real principles; we are now concerned with it in its relation to the human mind.

Is it anthropomorphic in itself and as a whole? — that is the first point. I answer Yes, as truly as the cosmogony of Hesiod, but it is a vastly narrower scheme. There are three things human beings can do, and by these the character of this scheme is fundamentally determined: they can move things by contact, they can measure, and they can work sums. To measure and compute motions, connected in the only manner conceivable by us, is all that this scheme will do. It is a wonderful and exact instrument, but its exactness is due mainly to its narrow range and formal character. Time is the emptiest thing we can measure, and the thing we can measure with far the greatest precision; but that gives it no supremacy over other conceptions, makes *it* no fuller, nor *them* less indispensable. The fact that mechanical laws are applicable to things shews indeed that 'things are ordered by measure and number,' but not that they *are* themselves only measures and numbers.[1]

Is a system of such laws, then, really clear of anthropomorphic implications? This is the second point: I answer, By no means. That subjects with varied intrinsic qualities, that causal agents, are beyond its ken does not disprove or affect the existence of such things or such agents. These we know first and independently, and

[1] Cf. Lotze, *Metaphysics*, Conclusion.

we can pass from them to it but never from it to them. We are able to use it, just as we use mortality tables, because it is an analytical instrument of our devising. Its utility, too, is evidence that the world is verily a cosmos, but not that it is verily a mechanism. Setting out from what — as I have said — we know first and independently, causal agents and things with intrinsic qualities, the unscientific mind looks to them to account for changes, and strives to represent the world in terms of their interaction. Hence the earlier sense of laws of Nature and natural agencies, which positive science only endures on sufferance and in principle repudiates. But though this triumph of human devising contrives to leave them out, it has still left them there. Men do not cease to be every one more or less *sui generis*, seeking out many inventions with untiring energy and undaunted by difficulty, because Newton's particular genius led him to discover the laws of motion and Laplace's led him to propound the nebular theory; or because, last of all, Mr. Spencer has evolved a theory of the universe in terms of these, into which Newton and Laplace would have to fit. When positive science scoffs at anthropomorphism, it is playing a dangerous game. Is it anthropomorphic, only the license of the poet, to say to a man: "Thou art thou, with power on thine own act and on the world"?

But if man's intellectual and practical activity is fact and not analogy, any formulation, however rigidly mechanical, of what we call natural phenomena, must still leave room for it and come to terms with it when challenged. A large part of human activity consists in

communication and coöperation between man and man. This again is fact, not analogy, albeit fact reached only by understanding, not fact as the lightning flash and thunder clap might be called facts for any sentient with eyes and ears. Hence I shall not charge you with anthropomorphism if you accept these laryngeal articulations of mine as — not noise, that might serve to scare rooks or admit of acoustic analysis, given the necessary resonators, but as — a more or less rational discourse addressed to you. So generally, being ourselves active and intelligent, we understand certain changes, which science can only formulate as matter in motion, to be verily the acts and expressions of rationals: only so can we meet and greet our fellow-men. No advance in the essentially interminable description of that mechanism can ever conceivably alter these facts, upon which — as I have repeatedly urged — this whole business of physical description depends, nay of which it is itself a part. So far, at any rate, the teleological and idealistic or spiritual character of experience seems clear; and anthropomorphic 'confusion of ideas' so far has had no chance to obscure it. Now put mankind and other sentients capable of mutual understanding on the one side and their common environment as a whole on the other. The relations of each individual subject to this environment are not confined to those in which it serves as the medium of intersubjective intercourse, and, in fact, cannot begin with them. But, before and apart from these relations, its environment is for each subject an orderly objective continuum, affecting it immediately, and always in some measure amenable to its

acts; the environment is its counterpart or non-Ego; its microcosm we might perhaps call it. These, then, are the facts for which, I repeat, every system of Nature, mechanical or not, must find room, or at least leave room.

This non-Ego, we say, is orderly, and so, intelligible. Either, then, it is itself intelligent, or there is intelligence beyond it. Again, I interact with it or through it; either, then, it is itself causally efficient, or there is a causal agent behind it. Early thinking, so far as it faced these questions at all, answered each by affirming the first alternative. But the many concrete aspects of the environment were then so obtrusive as to shut out the whole — there was no seeing the wood for the trees, as the proverb goes. Polytheism in religion and independent forces in science were thus far on a par. But the progress of thought has made it easier to comprehend the world, at least formally, as a unity, and in proportion as the questions just raised have been fully faced, the second alternative has been accepted in lieu of the first. As 'the gods many and lords many,' so amenable to concrete representation in poetry and art, have paled before a clearer insight, they have given place to one Supreme Being, beyond the world and only intellectually conceivable. So, too, the light, heat, and other natural agencies, so palpable and real for common sense, have become but various transformations of an underlying energy which is beyond perception. Religion and philosophy had worked their way to the sublime idea of a Supreme Being, the intelligent First Cause and Substance of all things,

long before science had accomplished its laborious task of abstractly formulating these things in terms of matter and motion. And when this vaunted formulation of all Nature is complete, and we are enabled to conceive a *mechanism*, intelligible therefore but not intelligent; in working, but too inert ever to start or alter or stop itself, how then can the questions we have asked be evaded? And if they cannot, what answer is there but that which philosophy and religion would give?

The unity of this vast mechanism, its regularity and completeness, they would say, all point to the one Supreme Intelligence as their only sufficient reason; while the inertness of all its parts equally point to Him as its Prime Mover and Efficient Cause. So spoke Descartes and Locke, Newton and Clarke, and many beside, who were prominent as workers on this fabric of modern science. Can we have the intelligible without intelligence; can we have things that wholly vanish in relations; can we have continuous process and nowhere an efficient cause? Again let me remind you that that older sense of Nature and natural laws, which I first described, though it lingers unavoidably in the less exact of the natural sciences, is treated as in principle obsolete. Matter itself and energy are, it is averred, only hypothetical conceptions — nay the whole scheme is but a descriptive apparatus. Still if there is verily something admitting of such description, it, too, must imply what the description essentially presupposes. Naturalism then, it would seem, does not escape spiritual implications, because science succeeds in strain-

ing its doctrines clear of them. Not, let us remember, that science is to be blamed for this: all that we have a right to demand is that what is thus left out shall not be ignored, and the bare anatomy of its body offered us as the living universe itself. The completeness of the abstract separation only makes our questions more pressing and the answer more impressive. It is not till we have seen a dead body that we know how much life means. Marvellous, even though but a skeleton, is this system of positive law, beyond a doubt; but how, we ask, if this be all, can these dry bones live? Science, as such, has nothing to do with the question; but Naturalism, which has, evades it, and sends us to Agnosticism for the answer. And once again, as it seems to me, Agnosticism plays the *rôle* of traitor.

Taking Mr. Spencer as here its exponent: a very brief examination of his doctrine concerning the Unknowable will suffice to make this clear. We are obliged, he allows, to refer the phenomenal world and all its law and order to a First Cause, and though this, he tells us, "cannot in any manner or degree be known, in the strict sense of knowing, yet its positive existence is a necessary datum of consciousness." Waiving for the moment any question as to what may be meant by 'knowing in the strict sense'; or how Mr. Spencer contrives to find a middle term between strictly knowing and not knowing at all, which shall not be opinion or belief, but positive and necessary affirmation — let us note some of his assertions concerning his Unknowable. First, he tells us, it is Incomprehensible Power.[1] But 'incomprehensible' is a somewhat

[1] *First Principles*, p. 99.

ambiguous word: we say the contradictory and nonsensical are incomprehensible, and we say man is incomprehensible to the brutes. It is in the latter sense that Mr. Spencer uses the word; for when the question of attributing personality to this First Cause is raised, he remarks, "the choice is between personality and something higher," and elsewhere suggests that to it may belong "a mode of being as much transcending intelligence and will, as these transcend mechanical motion." "This consciousness of an Incomprehensible Power," Mr. Spencer goes on to say, "is just that consciousness on which religion dwells," and he makes much of finding here a ground of reconciliation between religion and science. Then, *à propos* of Mansel's famous *Bampton Lectures*, the chief source of his own doctrine, he tells us that "our duty is to submit ourselves with all humility to the established limits of our intelligence" — which, by the way, he elsewhere describes as the 'imbecilities of the understanding!' — "Indeed, it seems somewhat strange," he continues, "that men should suppose the highest worship to lie in assimilating the object of their worship to themselves. Not in asserting a transcendent difference, but in asserting a certain likeness, consists the element of their creed which they think essential."[1] For my part, I feel that there is only too much in religious and theological literature to justify this censure. But still is it not possible to admit 'the transcendent difference' while yet asserting a 'certain essential likeness' between God and man? And, after all, have not thoughtful men in every age allowed as obvious that we cannot "find out the Almighty to perfection"?

[1] *First Principles*, p. 109.

But it is certain that we shall never find at all unless we seek; and yet how is search possible, if absolute difference and no likeness is the affirmation forced upon us by 'the established limits of our intelligence'? As I have already said, — and no fact of knowledge is more beyond cavil, — all positive knowing is assimilating. Either, then, Mr. Spencer must go backward, or he must go forward. If the positive and necessary datum of consciousness, having, he tells us, a higher warrant than any others whatever, be the affirmation of the absolutely different, then assuredly irrationality and nonentity are at the root of us. But if we may attribute to that Unknowable even Causality or Power, then so far we assimilate it to ourselves, as being causal agents; and, as I have argued at length, were it not that such is our nature we could not find that such too, in transcendent measure, is the nature of God. And again, if we may go this far, we must go farther still. If we were face to face with chaos, as in the opening scene of Mr. Spencer's evolutionary epic, we might perhaps identify his Incomprehensible Power with mere brute energy; but the First Cause of a Cosmos, to be an adequate cause and deserve the name, must be a Supreme Intelligence. But, in truth, experience does not warrant us in divorcing efficiency from intelligence. In a work, written many years after his *First Principles* were stereotyped, Mr. Spencer, discussing the development of religious ideas, himself raises the question: "How can a final consciousness of the Unknowable, thus tacitly alleged to be true, be reached by successive modifications of a conception which was utterly untrue? Surely if the primitive belief was absolutely false, all derived

beliefs must be absolutely false." And he replies: "Unexpected as it will be by most readers, the answer here to be made is that at the outset a germ of truth was contained in the primitive conception — the truth, namely, that the power which manifests itself in consciousness is but a differently conditioned form of the power which manifests itself beyond consciousness. . . . Consequently, the final outcome of the speculation commenced by the primitive man, is that the Power manifested throughout the universe, distinguished as material, is the same Power which in ourselves wells up under the form of consciousness. . . . The conception to which he (the explorer of Nature) tends is much less that of a universe of dead matter than that of a universe everywhere alive."[1] We may conclude, therefore, that so far it is only these inconsistent implications and admissions of an altogether idealistic character that save Mr. Spencer's flimsy agnosticism from being utter nonsense.

But there is still a point in abeyance. This Life of a Universe everywhere alive of which he has allowed himself to talk, is, Mr. Spencer tells us, totally and forever beyond our knowledge "in the strict sense of knowing." What, we must now briefly ask, is the precise import of this agnostic dictum? Briefly, then, Mr. Spencer's 'strict knowledge' is neither more nor less than the positive knowledge of Naturalism. For it is confined entirely to what he terms 'the veil of appearances,' the veil never lifted by the 'Inscrutable Reality' — to use another of his phrases — which it absolutely conceals; and these appearances again are either

[1] *Principles of Sociology*, §§ 659 f.

sense-particulars or conceptual relations of such. We are thus once more at Hume's standpoint, and may straightway concede the whole position to Mr. Spencer, if he is willing to take all consequences. Thus from the strict premisses of positivism we can never prove the existence of other minds or find a place for such conceptions as cause and substance; for into those premisses the existence of our own mind and its self-activity have not entered. And accordingly we have seen Naturalism led on in perfect consistency to resolve man into an automaton that goes of itself as part of a still vaster automaton, Nature as mechanically conceived, which goes of itself. True, this mechanism only goes of itself because it *is* going, and being altogether inert cannot stop or change. How it ever started is a question which indeed science cannot answer, but which, on the other hand, it has no occasion to ask: time, its one independent variable, extends indefinitely without hint of either beginning or end. Such a system of knowledge, *once we are inside it*, so to say, is entirely self-contained and complete. Mind is the alien, irrelevant, superfluous. Nature, according to this conception, contains no hint of either God or man; outside *this* is the place for Mr. Spencer's Unknowable, as what is transcendently different from it all, and Mind occupies that place. Not from within this system, but only from without and independently, can the conception of mind be brought to bear upon it. And the result is as when the sacred name is uttered in some Oriental palace of magic — the whole fabric collapses; its independent reality was an empty show. But obvi-

ously this result cannot come from within; the magician does not exorcise himself. Naturalism, I admit, talks of phenomena, but with fatal inconsistency. It only does so to rid itself of spiritual implications, and its phenomena end by being phenomena *per se* — a flagrant contradiction, of course. But work your way to that standpoint, ignoring yourself more than you can, and what do you find that is phenomenal in time, or space, or mass, or number, or in equations connecting terms involving only these? They in themselves give no hint of aught behind or beyond that supplements them, or of any gap in the system they form that needs to be filled. The 'established imbecilities of the understanding, to which we are bound dutifully to submit,' have no place here. It is precisely its independence of these that constitutes the fascination of this scheme for the naturalist who is taken out of himself and caught up in it.

An important distinction made by Kant, but only when he had reached his third *Critique*, meets us at this point — I mean the distinction between the determinant, or as we might say, mechanical, judgment, and the reflective or teleological judgment. Mr. Spencer's strict or positive knowledge is wholly the work of the former; knowledge of other minds we reach only by means of the latter. In the former we constitute the whole from the parts; in the latter we interpret the parts from the whole. In the latter, meaning and purpose, deeds and ends, are everything; in the former, none of these occur. From the reflective judgment as *prius* to the mechanical judgment the way is easy; from the me-

chanical as *prius* to the reflective there is strictly no way at all. No doubt in the various theories of psychophysical parallelism an attempt is made to find a way, so far at least as to connect mind and mechanism. But only because the existence of finite minds cannot be wholly ignored. And if those theories fail hopelessly in the case of finite minds, is it likely that the same method can lead us to any adequate idea of the First Cause of all this mechanism? By parity of reasoning on these lines God should be, if He is at all, the collateral product of the universal mechanism, another aspect of matter in motion. Monistic literature since the days of Spinoza abounds in notions of this class, but they only save themselves by negating themselves, to use a Hegelian phrase. The moment mind and matter are mentioned together, matter appears at once as secondary and dependent, so surely as mind is active and matter inert, so surely as mind has meaning and purpose, and matter only subserves them. This has been the burden of our argument since we entered upon epistemological questions, and I do not need to enforce it afresh, but only to apply it to Mr. Spencer's dictum. We attain to the knowledge of all minds, the minds of other creatures, the Creative Mind and even our own, only by reflexion, interpretation, understanding. We are adepts at this kind of knowledge before we have even begun to acquire the positive, constructive, mechanical knowledge by which we conceptually summarise the world. But this we can do without understanding it at all, just as a compositor can set up the type, letter by letter, of a piece of literature in entire ignorance of

its sense. Between these two forms of knowledge, between the determinant and the teleological judgment, the difference is not one of degree, it is a difference of kind. No insight into printing processes will make a *littérateur* or even a critic. But only a man who had never been outside a printing works could imagine that literature was but a collateral product, a mere aspect of letterpress, or an inscrutable something that lurked forever behind it. This analogy, however, is not in all points exact, but to note where it breaks down will help us forward. Unquestionably letterpress is only a means to an end, not an end in itself. But in Nature we can never say that anything is means only; it is more reasonable to regard all as meaning, even though we cannot say what. And, accordingly, if we allow the conception of a Supreme Mind and First Cause to be valid at all, we shall not have God *and* interminable mechanism as His medium and instrument: really, fundamentally, ultimately we shall have God only and no mechanism. It is verily a case of all or none; which we find, God or mechanism, depends upon our standpoint, but we cannot from either standpoint find both. From the one standpoint, for rational reflexion, for philosophy, the conception of the course of Nature as a pure mechanism is an obvious fiction, as much a mere organon as a table of logarithms, a transparently human device, and so far thoroughly anthropomorphic. Nevertheless, the fact that the course of Nature *can* be summarised by mechanical formulæ is evidence of a congruity between thought and things, which justifies the idealist's interpretation. But from the other standpoint, for the formulæ themselves,

the conception of God is not, as Laplace remarked, a hypothesis that they do not need, but a conception wholly without and beyond their horizon. But the same is equally true in principle of all other minds, as the inceptness of psychophysical parallelism and the contradictions of dualism sufficiently shew. It is precisely the independence thus pertaining to the mechanical scheme which in the end, when reflexion begins, makes its dependence the more certain and impressive.

But there is still one point in Mr. Spencer's characterisation of theistic knowledge which we must not pass without a word — I mean his use of the distinction of appearance and reality — a distinction which has ever been the stronghold of Agnosticism. Strict knowledge, he gives us to understand, is confined to appearances, behind which God remains wholly and forever concealed as Inscrutable Reality. The term 'phenomenon,' like many other philosophical terms that have obtained common currency, has hereby acquired so many and such diverse meanings as to make careful scrutiny imperative, whenever it reappears in philosophical discussion. We have allowed that strict knowing, if it is to mean the resolution of the course of Nature into coexistence and succession, and these again into a world-formula in terms of matter and motion, does not reveal God at all, or mind of any sort. But I would now urge that such a formula is not 'a veil of appearances,' is not in propriety of language phenomenal at all. "The idea of phenomenon or appearance," says Lotze, "in order to be intelligible must presuppose not only a being or thing which appears, but also, and quite as indispensably, a

second being by whom this appearance is perceived."[1] But who has ever perceived mass-points in motion, vortex-atoms, or ethereal undulations? The whole purport of these is that they are ideal conceptions, not perceptions; not properly appearances at all, but only symbols of perceptions which are the real appearances. And when science forgets this and, inverting the true relation, declares perceptions to be themselves the symbols and its own abstracts the true phenomena, it perpetrates the absurdity we have so often stigmatised of phenomena *per se*. But if we decline to call anything an appearance, unless it is either perceived or perceptible, why then should we attach to it the bad sense of concealing, rather than the good sense of revealing? Why should appearances not be reality? Nay what else can they be? How can reality appear, shine forth, and yet remain totally and forever beyond the knowledge of those to whom it appears? Let us turn, as we have done before, to the case we know best — the communication of one human mind with another. Assuming good faith, we never regard a man's acts and utterances as masking, but rather as manifesting the man. If they mask when it is his intention to deceive, surely they cannot also mask when his intentions are the precise opposite. These acts and utterances may be beyond the comprehension of men on a lower intellectual level, and with narrower horizons, but they are not the less real or true on that account. And why should we argue differently, when reflexion leads us to see in a Universe declared to be 'everywhere alive,' the manifestations of a Supreme Mind?

[1] *Microcosmus*, Eng. trans., ii, p. 160.

This brings us to another agnostic objection — but one raised this time, not by Mr. Spencer, but by the late Professor Clifford, though it has been in substance a commonplace objection with anti-theistic thinkers since the days of Epicurus. Finite minds, it is said, manifest themselves by interfering in the course of Nature. Primitive man imagined that he discerned like interferences of a superhuman kind; and from such premisses concluded correctly enough that "God walked with men." But now it is maintained, as I once heard Du Bois-Reymond say, that Science has banished the gods from the universe. This objection again, though it has unquestionably had weight for ages, seems to lose all its force, once we take account of the difference between the Mind that lives in the whole of things, and the minds that are confined to parts. To overlook this difference is to be guilty of the fallacy of 'the poor Indian philosopher,' whom Locke has immortalised. No doubt this sceptical objection has been indirectly confirmed by the "fanaticism which would like to see the Supreme Good active in some other way than that which it has itself chosen, or which believes that Good to be attainable by some shorter path than the roundabout way of formal orderliness which it has itself entered upon."[1] Once again let us turn to what we know first and best: let us consider how this objection would look if applied to the thoughts and acts of a human mind regarded as a whole in themselves. When a man sets to work to expound a theory or to carry out some practical project, he does not retract earlier statements, or change his

[1] Lotze, *Microcosmus*, ii, p. 727.

first plans, save to amend his own error or to remedy unforeseen defects: the more he is master of his purpose the less of such interference there will be. And when we look at the collective results of human thought and practice, we see that, the more they approximate to perfection, the more they have of fixity, or at least of orderly progress. Finally in the intercourse of man with man, the more steadfast purpose is directed by clear insight, the more intimate the unity and community that is possible; the more expectations are realised, the more sure and secure is each among all. But the prime foundation of all such life and intelligence is that perfect orderliness of Nature which science mistakes for brute, mechanical necessity.

But is it needful to say again that the laws of Nature are not self-existent at all, and that therefore their necessity can *not* be the necessity of a Fate? Science cannot at once renounce metaphysics and play the metaphysician. It was allowable for Lucretius, Gassendi, and the English Deists, who still held to the notion of substantial causes, to regard the world as started by Divine Power and then left to itself. From such a position modern Naturalism is cut off by the meaning it has given to law. So soon as laws are defined as constant relations, so soon reason compels us to look beyond them. Such a definition brings the ground and source of the relations nearer instead of removing them farther off. Relations may hold, but they cannot operate; they may subsist, but they cannot exist in the absence of the things to which they pertain. Matrimony is a constant relation, and actual so long as there are husbands and wives; service is a constant re-

lation, and actual provided there are masters and servants. The only *things* of which we have positive knowledge are subjects with intrinsic qualities, things that are something in themselves and something for themselves. All else may be resolved into relations between these. Hence science, which replaces qualities by relations, ends with the conception of empty and formless matter, that is nothing for itself, or in itself, that can receive no determination and can impart none. Again, the only *causes* of which we have positive knowledge are minds: these have a nature of their own and hence can interact, determine, and be determined. And here again natural science that knows not mind knows not cause: causes are replaced, therefore, by transferences of motion between one portion of the ἄπειρον and another, transferences only mathematically determinate and otherwise inconceivable. Is it not plain, therefore, as I have argued at length before, that reality consists in the concrete things and events that science sets out from, and not in the network of relations which is its goal? If then, as rational beings who have other ends in life than calculating and classifying, we want to interpret and understand the full meaning of the world, must we not return to it in its fulness and variety? When we so regard it, and consider first what we know best, the interaction of mind with mind — and this *must* be the basis of our interpretation if we are to understand at all — we do not say, that between man and man there intervenes some entity called a body of relations. The intercourse, the coöperation or conflict, actual or possible, of the individuals themselves is their relation. As Lotze forcibly puts it: "The passion and

action of things must take the place of relation. Just when, and in so far as things act on one another, are they related to one another; there are no objective relations other than this living action and passion."[1]

Why, then, if law and order are only intelligible as the outcome of intelligence, may we not regard each individual subject, everything that is anything for itself and in itself, as a living law, or if you will as an active essence or character, interacting in its own peculiar manner with other subjects equally determinate? With experience in the concrete, we can deal satisfactorily in no other way, and no competent thinker dreams of interpreting the history of the world by means of a scheme of universal laws. In history — natural as well as civil — we find no mere repetitions, no absolute fixity, small scope for measurement or for mathematics, the indispensables of all scientific *conception;* yet, though affording thus little foothold for positive and exact science, the historical is what we *understand*[2] best and what concerns us most. How far below us, how far above, the historical extends, we cannot tell. But above it there can be only GOD as the living unity of all, and below it no longer things, but only the connecting, conserving acts of the one Supreme. Such a view you will say is incompatible with the scientific conception of law, for that postulates necessity, whereas this lets contingency into the very heart of things. It

[1] *Microcosmus*, ii, p. 635.

[2] On the antithesis between conceiving (Begreifen) and understanding (Verstehen), see an interesting paragraph in Paulsen's *Einleitung in die Philosophie*, 2 Aufl., p. 384.

is true: I not only admit it, but contend that any other world would be meaningless. For the contingency is not that of chance, but that of freedom; so far as everything that is is a law in itself, has an end for itself, and seeks the good. In such a world there is still room for rational necessity, and more than this scientific generalisations do not justify and cannot demand. For where rational necessity is supreme, freedom is possible, and things must be intelligible. No sane man resents as a constraint normal laws of thought, normal laws of conduct, normal laws of taste, or demands that truth, goodness, or beauty should be other than they are. Real freedom consists in conformity to what ought to be. For God, whom we conceive as essentially perfect, this conformity is complete; for us it remains an ideal. But were we the creatures of a blind mechanical necessity, there could be no talk of ideal standards, either of thought or of conduct; no meaning in reason at all.

Now at least one thing is certain: experience does not start confronted and determined by mechanical necessity; and the conclusion to which we are led is that — provided we keep the whole of it clearly in mind — it does not end so confronted and determined. Science is ever appealing to experience, and to experience we have gone, only insisting that there shall be rendered to it all that is its due. For science has left the historical so long aside that it is beginning to forget that experience in itself is historical at all. We have, therefore, on the other hand, to insist that it is historical altogether; and the fact is happily one there is no gainsaying. Yes, the actual is wholly historical; and so far, too, it is 'the

unknowable in the strict sense of knowing'; in its concrete fulness, that is to say, it has defied and will ever defy all our attempts at adequate formulation. And precisely on this account must science ignore it, so long as the ideal of science is calculation and measurement. Steadfastness to such an ideal cannot but entail the exclusion from strict science of all but 'necessary truths'; whereas for us experience as a whole consists from end to end of 'contingent truths.' The difference between these Leibniz happily compared to that between commensurable and incommensurable numbers. "For as with commensurable numbers," he says, "resolution into a common measure is possible, so with necessary truths a demonstration or reduction to identical truths can be found. But just as surd ratios . . . lead to an interminable series, so contingent truths involve an analysis that is infinite, and possible to God alone."[1] This incommensurability of the necessary and the contingent, the scientific and the historical, answers to the difference between validity and reality, and shows, at the same time, that "reality is richer than thought." Thought gives us only 'science,' not existence; we cannot, by piling up propositions, secure the simplest 'position.' Thought, again, gives us only the 'universal,' the relational; from the 'particular,' which is the 'surd' for it — or the real meeting point or subject of relations — it must start, but to this particular it can never return save by traversing an interminable series.

But this reality, richer than thought, is experience. Science cannot originate experience; for experience is the

[1] *De Scientia Universali*, *Opera*, Erdmann's edition, p. 83.

source of science, yet always more than its product, so surely as the workman is more than his tools. Science is but the skeleton, while experience is the life;[1] science but a means, and experience the end itself. And when we examine that necessity which is the boast of science, the ground of its utility and the criterion of its perfection, how singular is the result we find! For the sake of this ideal, the historical is ignored, the metaphysical eliminated, substance and cause become fetishes, God a superfluous hypothesis, and mind an enigma, a troublesome by-product, a veritable ghost that cannot be laid. Nevertheless this necessity itself remains inexplicable, and in turn is scouted as but a shadow of the ghost or anathematised as an intruder. Naturalism can do nothing without it, and Agnosticism can do nothing with it. For the one can only attain reality by treating necessary truths as truths of fact, and the other can find no necessity in facts at all. But these necessary truths, we have seen, are as Leibniz rightly called them, truths of *reason*. They originate in the subject of experience, not in the object, If the objects conform to them, then all experience is rational; our reason is confronted and determined by universal reason. Such is the world of spiritualistic monism, and to this world, as I have tried to show. Naturalism and Agnosticism eventually lead us in spite of themselves. Thus their demurrer to theistic inquiries is not sustained.

[1] Cf. Lotze quoted above, p. 252.

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